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SLEEP AND DREAMS.



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SLEEP AND DREAMS;

TWO LECTURES

DELIVERED AT THE

BRISTOL LITERARY & PHILOSOPHICAL INSTITUTION.

BY

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TO THE

RIGHT HONORABLE LORD TEIGNMOUTH.

MY DEAR LORD,

I venture to inscribe these Lectures to your Lordship, because the publication of them was requested in a resolution which you proposed to my audience, and to which, after it had been kindly seconded by Mr. Sutherland Græme, and accepted by the meeting, I could not but feel myself bound in gratitude to accede.

I am glad to have this public opportunity of expressing the deep respect and regard which I entertain towards your Lordship, and my admiration of the untiring activity with which you devote your high talents and attainments to the furtherance of the intellectual elevation, as well as of the moral and religious improvement of your fellow-creatures.

I remain, my dear Lord,
Your obliged and faithful Servant,

JOHN ADDINGTON SYMONDS.

CHIFTON, June 1851.



PREFACE TO THE SECOND EDITION.

The present Edition is little more than a reprint of the first, with correction of some errors of the press. I had no thought of putting so slight a work again before the public, until Mr. Arrowsmith informed me that there was a demand for it, sufficient to make him desirous of printing it at his own risk. An Author who professes to be careless about the approbation of his readers is not easily believed; and I do not pretend to any such indifference, but I confess that I chiefly desire the success of this Edition in order that my enterprising Publisher (for such he seems to me) may not be disappointed.

To the list of works in the Preface to the First Edition I beg now to add the "Psychological Inquiries" of Sir Benjamin Brodie, and "Chapters on Mental Physiology," by Sir Henry Holland.



PREFACE TO THE FIRST EDITION.

It is easy to spare books in these days of prolific authorship; and I fear it will hardly be considered a sufficient apology for my offering a superfluous book to the public, that I was impelled to do so by the request of partial friends. Yet I wish to say, that these Lectures, composed under many interruptions, were not designed for publication.

As I am fully conscious how imperfect has been my discussion of their topics, I cannot do better than point out a few works which the reader who is interested in such subjects may consult with profit and amusement. A large collection of facts will be found in Dr. Macnish's "Philosophy of Sleep," and a still larger number, intermingled with ingenious speculations, in a work by Dr. Binns, entitled "The Anatomy of Sleep." The physiological relations of the subject are admirably treated by Dr. Carpenter, in an article on Sleep in the Cyclopædia of Anatomy and Physiology. The philosophical reader will consult, with great satisfaction, a chapter on "Dreaming, Insanity, and Intoxication," in Dr. Holland's "Medical Notes

and Reflections," and he will also read with pleasure Mr. Dendy's very elegant volume, entitled the "Philosophy of Mystery." Those who wish to view dreams in their moral and religious aspects, should peruse a little work by Mr. John Sheppard, who brings to this subject the same intellectual refinement, conjoined with the same earnestness of moral purpose, which characterizes his other writings.

Whether my investigation of the order and relations of the phenomena in sleep and dreams has at all furthered the elucidation of them, I must leave my readers to determine.

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SLEEP AND DREAMS.

LECTURE L

Objects of study may be arranged under two great divisions; one consisting of those which must be sought in a wide investigation of external nature; the other of such as are at all times, and in all places within our reach. former are spread as far as our bodies, or our senses, aided or unaided, can extend; the latter we carry about with us. The one class are objects of sensation, or outward observation; the other of consciousness and internal reflection; the world without, and the world within; this embracing the workings of our minds, our emotions, sentiments, affections, and propensities; the other, all the domain of matter and its attributes,—all that exists, whether we are living to observe it or not. Reviewing these two classes, we cannot help being struck with the overflowing provision which they present to our mental cravings; for while, on the one hand, the perceptive faculties have unbounded and delightful exercise amid the sublime and beautiful objects which the Creator has presented to us, in what we call the realms of Natural History, and Physical Philosophy; on the other hand, when by accident confined to narrow limits of space, deprived of one of our senses, or excluded from the objects of these

senses, as in the shades of night, or in the solitude of sickness or captivity, we may turn inwards the mental eye, and see the wonders which the same Almighty Hand has fashioned in the mind and heart of man.

Our present subject belongs in some measure to both of the departments of inquiry which I have thus briefly sketched; for our knowledge of it is in part derived from our own experience, and in part from our observation of it in other beings.

To know something of that condition in which we spend one-third of our lives, is not an unworthy inquiry. And yet the thought may at first occur to you,—What can be better known than sleep?—a state of which we have all of us common experience. But simple and obvious as it may seem to be, we shall find that the more we investigate it, the more is it productive of topics for interesting and curious speculation, and of questions not very easily answered.

What is Sleep? If we attempt to define it in positive terms, we shall find ourselves insensibly wandering among those metaphorical descriptions familiar to us in the pages of the poets, instead of giving an accurate account of its phenomena; for in fact it is a negative state of the living body, and it is only to be correctly represented by the enumeration of various actions which are wanting in that condition, and the presence of which renders a person awake. To sleep perfectly is,—not to see, not to hear, not to smell, not to taste, not to touch, not to speak, not to move; in short, not to exercise one of the faculties which characterize a human being or even an animal. Well, then, may sleep be called "the image of Death," "Death's brother," "so like death," says Sir T. Browne, solemnly, "that I dare

not trust it without my prayers." So, too, it was described by Homer,

"Then gentle slumber on his eyelids fell,
That deep, sweet sleep, which death resembles well."

In the human body there are two great classes of vital actions. One of them comprehends all that belong to the function of Nutrition, by virtue of which the solid framework is maintained and repaired, and which consists in the continual addition of new particles of matter, and in the removal of those which have become useless. To this class also belongs the circulating function, whereby the materials for the former actions are distributed to the different parts of the body, in the form of blood; also Respiration, a process for purifying the blood, and rendering it otherwise better fitted for the purpose of nutrition; also Secretion, a process by which matters, as in perspiration, are removed from the blood, and by which fluids are formed, which serve important offices in the system.

Now, these several functions, you observe, are all occupied in maintaining the body as a living organic structure, that is, as a structure distinguished by the actions which have been adverted to, from those structures in which there is no growth, no circulation, no respiration,—bodies which, in a word, are inorganic. Moreover, these functions are analogous to what are observed in the vegetable kingdom, and therefore they are often called the vegetable or organic functions; and as the collection of vital actions is designated the life of the body, so this particular group, of which we have been speaking, is denominated the organic, or the vegetable life of the human body, to distinguish it from

another group. This other group comprises sensation, thought and voluntary motion; and as these are possessed only by the members of the animal kingdom, they are called animal functions, and the sum of them the animal life; or, since it is by help of these actions that the animal entertains communications with surrounding objects, we sometimes speak of it as the Life of Relations.

In the state of waking both these lives co-exist, and render each other mutual service. The functions of relation are indicating, through the sensations, certain external means of support for the fabric, while the motor faculties obtain them, and in their turn the vegetable functions are keeping the organs of sensation and motion in a state of efficiency.

But what is the case in sleep? Here we see that the superadded functions which constitute the animal life are withdrawn, and the body, for the time, is reduced to the condition of a vegetable. They are suspended, not extinguished; but there are other states in which extinction of animal life has taken place, though the organic life continues for awhile, as in certain kinds of fatal stupor; that, for example, produced by a poisonous dose of opium. In such irrecoverable sleep animal life is extinct, though the organic may hold out for some time longer.

Ordinary slumber, then, consists in the temporary cessation of the action of voluntary muscles, and their nervous connections, and of the senses. The order in which these are steeped in forgetfulness, those in inertia, is not always the same, nor are they always suspended at the same time.

The phenomena of sleep, as observed by a bystander, are, for the most part these:—The features are relaxed, and

give little or no expression, unless of bodily pain or distress. or of the sentiments of a dream, or of some long predominant passion, which has been so often denoted by certain muscles of the face, that these have acquired a fixed unnatural development from their constant exercise, and thus, even at a time of repose, they produce the semblance of emotions which may be really at rest. Ordinarily, however, the features exhibit no other aspect than that of passiveness. The eyelids are closed more or less completely; but in states of great debility, and especially in children, the closure is imperfect. The eyeballs are rolled upwards, so that the pupils, even in the semi-closure, are not fully exposed to the light; they may, however, be quite open to light, and sleep, nevertheless, occur, though such instances are extremely rare. The ears are not defended from outward causes of hearing in any other manner than by a relaxation of the muscle which keeps the drum of the ear on the stretch, and which is probably used only in the nicer discriminations of sound. Odorous particles reach the nerve of smell, but are not carried into it with that impetus which enables them to be more strongly perceived, and which requires a voluntary effort. Taste is not excited, partly because no substance is presented, and partly because the tongue is not pressed against the palate. The general sensibility of the body is not aroused, for the contact of clothes and the pressure of the chair or couch occasion impressions too slight and too habitual to be noticed. The sense of touch has no stimulus applied to it, for this involves muscular exertion, as in the application of the tips of the fingers.

In one way or other, then, the sleeper is withdrawn in some degree from the agents which affect the senses; but

all these conditions may be absent, and yet sleep no less occur, for the only thing essential to this state is torpor of the nerves, or of the nervous centres with which they are connected.

We are generally made aware that a person sleeps by his insensibility to sounds, for the shutting of the eyes is obviously equivocal. If the slumber be light, the slightest touch may awaken him, an impression far slighter than that made by any part of his dress, or by the pressure of his body. This is owing to the novelty of the impression, a quality which always increases its effect; and I may remark, incidentally, that the mere cessation of an impression that was present at the time of falling asleep, may cause the sleeper to awake; thus, a person who sleeps while another is reading often starts when the reader pauses; and this removal of an impression is tantamount to a new impression, since the nerve is put into a condition different from what had existed for some time. The finger may have been so accustomed to the pressure of a ring that its pressure is unheeded, but let it be taken away, and the wearer is immediately reminded of its absence by the new feeling in the part.

As the slumber becomes more profound, the eye, the ear, and the skin become less impressible; strong light may stream through the semi-pellucid eyelids, loud noises may reverberate, and the individual may be touched, nay, moved, and yet he may not awake.

Not only, as we have seen, are the muscles of the face relaxed, but also those of the trunk and limbs. The muscles which are necessary for respiration continue to act, but their action is independent of the will, though occasionally assisted by it. The relaxation is generally gradual. If the sleeper is in the sitting posture, the grasp of the hand on the book, or any other object, gives way, the body inclines forward, or sideways, or backwards, according to the direction towards which gravitation directs it; the head falls towards the breast, because it is so articulated to the spine that its heavier portion is anterior to the centre of motion. The shock given by this descent of the head often rouses the sleeper sufficiently to make him bring it back to a position more accordant with his rank in the scale of animals; and then the will again slumbers, and the head is again degraded.

On examining the limbs, we notice that they are gently bent. There are two sets of muscles which move the limbs; one set which bend the joints, the other which straighten them; they are technically called flexors and extensors, and they antagonise each other. In sleep the flexors are said to have the predominance; not, however, that this statement is quite correct, for neither set are positively in action. limbs are found in a semi-flexed position, not because of a continued action of the flexor muscles, but because having been instinctively placed in that position, they remain in it when the muscles are reposing. They are instinctively so placed, in order that the body may rest more easily, because on a more extensive base, when the limbs are slightly bent. Any one will find, when lying down on the side, and trying to rest with the limbs extended, that the points of support for the body are much fewer, and therefore that the pressure on the parts which are undermost is greater than if the limbs are moderately bent.*

^{*} A limb at rest, whether in the sleeping or waking state, is slightly bent. It may naturally be asked, why should not a limb which has been extended

These remarks on the sleeper all have reference to what I described to you as the Life of Relations, but we cannot close this first superficial study of his condition without noticing the respiration. It is slower than in the waking state, and it is more audible. The latter character depends on the air being drawn through the nostrils only, and with more force, because the inspirations are deeper. Sometimes, as in very profound sleep, the breathing is absolutely laborious; the cause of which is either that the torpor natural to one part of the nervous system is extended to another which is very near it, and from which the nerves which animate the muscles of respiration derive their energy, or that the state of sleep, combined with the position, has caused such a fulness of the vessels about this part as to oppress its function. In coma, or morbid sleep, this phenomenon is very common. The circulation is also slower, that is, the beatings of the heart are less frequent; one reason for which is the suspended muscular action in the limbs, for no cause has a greater influence in quickening the circulation than muscular action: and the mode in which it operates is by compressing the veins, and so hastening the flow of blood through them towards the heart. Also there is, cateris paribus, a direct proportion between the rate of circulation and the respiratory movements. Another fact worthy of notice, as to the organic life in sleep, is that the body is more easily affected by cold. Now, the body resists the action of outward cold, or, in stricter language, is enabled to part with a large portion of

remain in that position when the extensor muscles have ceased to act? It appears to be owing to the relative shortness of the flexor tendons, which must date from the processes of growth in the earliest stages of existence, when the continued flexion of the limbs is greater than at any subsequent period.

heat to the air and other surrounding objects by virtue of its own faculty of manufacturing heat. The animal caloric is formed in greater quantity, in proportion as the respiration and the circulation are more active; therefore it is not wonderful that during sleep cold should have a greater effect upon the body than during our waking moments. It is probable, also, that there is a direct relation through the nervous force, which seems to be intimately connected with the production of heat.

Digestion and the assimilative function are, probably, more active during sleep; so also is the function of perspiration; but I must not dwell upon these points, as we have much before us.

There are provisions for excluding the agents which excite some of the organs of sense. Thus, the eye is curtained by its drooping lids, and the muscle which puts the drum of the ear on the stretch is probably relaxed; but all external exciting causes may be removed, except the contact of clothing with the skin, or the impression on the part of the body which is reclining, and yet sleep may be absent. The feeling of wakefulness continues, the thoughts are those of waking hours, and the will is ready to put any resolves into action. And again, on the other hand, the most vivid and violent impressions may be made on the organs of sense without interfering with the accession, or interrupting the course of sleep. The weary gunner sinks into slumber by the side of roaring cannon; the jaded sailor boy drops asleep

".....upon the high and giddy mast, In cradle of the rude imperious surge,"

and many an overworn artizan dozes before the blaze of a furnace, or the glare of gas lamps.

There is, then, something more than the mere cessation of external impressions, and more than mere muscular inaction. The susceptibility of impressions, that is the sensibility, is paralysed, and the will no longer acts. The degree to which the sensibility is suspended is often wonderfully slight; for, notwithstanding the individual sleeps, one ray of light falling on the closed eyelids, one faintest foot-fall, may arouse him.

What we have as yet remarked respecting sleep might be learnt from mere observation of the change which this state induces in others, and even in the lower animals; but that which we have next to take notice of could be ascertained only by our own experience of the state, or by the communications of others. I allude to the state of the mind. As we shall have to discuss this topic fully in the next lecture, what I have now to say will only be enough to connect it with the rest of our subject.

All the objects which surround us, and which we perceive by our senses, may be said to be composed of our sensations; for in giving an account of an object we are only able to relate the sensations which it has produced, though we instinctively believe that the existence of these objects, that is of the causes of our sensations, is independent of our own existence. When the objects which cause the sensations are no longer present, they may be remembered; by which we mean, that the sensations may return to our minds. But how do we distinguish these remembered sensations from those which are immediately produced by present objects? In no other way that I am aware of than by their comparative faintness. The recognition of the present outward object, as present and outward, depends upon the

liveliness of the image, for a certain degree of vividness seems inseparably associated with the feeling of externality, or outness. The object is felt at once not to be a part of ourselves, it is "non ego," separate from us, and independent of us. A friend present to our sight produces an image more vivid than any we can at any time call up by an act of memory. Just think what confusion would arise if remembered sensations and present sensations were of equal vividness. The real and the unreal would be intermingled; for as to the subjects under discussion, the real is that which is actually perceived, the unreal, what exists only in the mind. One person is really present, and the light reflected from his body produces a certain impression on the retina, which again excites in our brain, and through it, in our mind, an image which is so vivid as to make us believe instinctively, what is really the case, that he stands before us. But the analogous sensation which the person of another individual, who may be no longer living, once excited in our minds, is at the same time revived; and yet we do not think the latter individual present, though he is perceived by what is called the mental eye. The image is distinct, but it is far less vivid than the former, and indeed than any other object of present sensation, so that the living and the dead are kept separate. This is the state of the case in the healthy condition of the mind and its organ. But the occurrences of disease may alter this relation between present and remembered sensations. The latter may become equally vivid with the former. The person subject to such disorder believes persons to be before him who are not really so, because the images in his mind have, under morbid action, become unnaturally vivid, have acquired the same liveliness as present perceptions, and though revived only in his mind, are projected into the sphere of vision. This is the rationale of apparitions, ghosts, and spectral illusions. And to do away with the objection derived from any other argument as to the reality of spectres, I may remark that the remembered perceptions may be not merely ideas of human beings, but also of the lower animals, and even of inanimate objects; dress for instance, for ghosts are never without drapery. In the disease called "delirium tremens" it is very common for the patient to see ghosts of rats and mice, and spectral swords and guns. Bear in mind, then, this difference in the vividness of perceptions and ideas, and you will better understand what occurs in sleep. Sensations, we have seen, are suspended; therefore the images in dreaming have no sensations to be contrasted with them, and they give the complete feeling of reality. They do not arise with the stamp of the past upon them, as in our waking hours, and they are combined together in fantastic associations without any control of the will. I am inclined to think that by reason of the diminished action in the part of the brain connected with sensation, there may sometimes be increased action in that connected with the revival of past impressions, in correspondence with a law constantly operating in the human economy, that diminished action in one part causes exalted action in another; but this view is hypothetical.

From this account, then, it appears that when we sleep we not only lose the sensibility to external objects, and the power of volition, but also that ideas acquire such an increase of relative or absolute liveliness as to give all the feeling of reality or outward existence, and, in fact, introduce us for the time into a new world

I shall now, in order to vary this discourse, remark the different tendencies to sleep in different animals, and in different individuals of the human species.

It is probable that all animals pass at some time or other into the state of sleep, since periodicity of action seems a universal property of the functions which characterize an animal. Little is known of the phenomena of sleep in animals which range below the vertebrated classes, and have less complicated nervous systems. Periods of inactivity are with them, perhaps, periods of sleep. Fishes are known to sleep, and Aristotle tells us how they may be surprized in their slumbers. Reptiles often sleep for very long periods, especially serpents, when they have been provided with food enough to last them for several weeks' digestion. Birds take much shorter periods of repose, and the mammalia likewise, excepting those which pass periodically into the state of hybernation, which is a profound degree of sleep. Setting aside, for the present, this state, we may observe that the capability of sleeping for a long period bears a relation to the digestive function of the animal. If it needs frequent supplies of food, those organs which provide it must be correspondingly active. But if a large quantity can be laid up in store, the senses and muscular movements may be suspended during its slow digestion; and this, as we have said. is the case with serpents. Many beasts of prey, which continue watchful for several days, when hungry, will remain torpid for a long time after they have gerged themselves with food. Man, who has a greater power than any other animal

of accommodating himself to varying circumstances, has often acquired the habit of long fasts, making large meals, and spending a corresponding time in sleep. It is one of the accomplishments of the aboriginal civilization of North America to be able to lay in a stock of food for two or three days, and to sleep in long spells, in order to be able to bear long abstinence and watching. There are many curious cases on record of persons capable of long slumbers. "Quin, the celebrated player," says Dr. Macnish, "could slumber for 24 hours successively. Elizabeth Orvan spent three fourths of her life in sleep. Elizabeth Perkins slept for a week or fortnight at a time. Mary Lyall did the same for six successive weeks. In Bowyer's Life of Beattie a curious anecdote is related of Dr. Reid, viz., that he could take as much food, and immediately afterwards as much sleep, as were sufficient for two days."

I cannot leave this part of my subject without noticing the fact that animals give evidence of dreaming. It was not a mere poetical speculation which led that accurate observer of the habits of animals, Sir Walter Scott, to say,

> "The Stag honnds, weary with the chase, Lay stretched upon the rushy floor; And nrged, in dreams, the forest race, From Teviot Stone to Eskdale Moor."

LUCRETIUS describes the indications of dreaming in the lower animals with great minuteness. He even points out the difference observable in the dreams of dogs of chase from those of the lap-dog.

"Venantumque canes in molli sæpe quiete Jactant crura tamen snbito, vocesque repente Mittunt, et crebras redducunt naribus auras, Ut vestigia si teneant inventa ferarum.

Expergefactique sequnntur inania sæpe
Cervorum simulacra, fugæ quasi dedita cernant;
Donec discussis redeant erroribus ad se.

At consueta domi catulorum blanda propago
Degere, sæpe levem ex oculis, volucremque soporem
Discutere, et corpus de terra conripere instant,
Proinde quasi ignotas facies, atque ora tuautur."*

We must all of us have noticed that dogs growl and snap in their sleep, as if angry, and sometimes whine, or wag their tales, as if more amiable emotions were playing over their slumbers. Horses are said to neigh and rear in their sleep; and parrots, the most intelligent of the winged race, are reported by those who have studied them to give unequivocal signs of dreaming.

The sleep of animals cannot be dismissed without one or two comments on that remarkable condition called Hybernation. A few animals only, as the hedgehog, the dormouse, the marmot, the hamster, and the bat, are known to pass into this state at certain periods. A great deal of mystery once hung over this subject, and the animal was thought whilst hybernating to have its whole life suspended but not extinguished. The state is now known to be one of profound sleep. And not only are the animal functions brought into a state of complete inactivity, but even those of the organic life are reduced to the lowest ebb compatible with the continuance of vital action. The respiration can scarcely be detected, and the circulation is wonderfully slackened. Thus, "in the hamster the pulse usually beats at the rate of 150 per minute, but it is reduced to 15 in the torpid condition. Marmots, in a state of health and activity, perform about

^{*} De Rerum Naturâ, Lib. iv.

500 respirations in an hour; but in the torpid state these occur only about 14 times during the same period, and are executed with intervals of four or five minutes of absolute rest, and without any considerable enlargement of the chest."* The bat feeds upon insects, but in winter the insects disappear; therefore the Creator has beneficently arranged that during that season the bat shall pass its time in a deep lethargy, not requiring food, because little or no nourishment is then expended. The hedgehog wakes up after two, three, or four days, and obtains a few snails or worms, if the ground is not too hard. The dormouse may wake every day, for a short time, when it eats a few grains if it can find them, and relapses into sleep. The temperature of these animals falls very nearly to that of the atmosphere, which is a further illustration of how little is the amount of vital action of which they are the subjects. But it is not because they are cold that they become lethargic. The state of hybernation is quite distinct from the torpor occasioned by loss of heat.

We now return to the consideration of sleep in man.

There are different degrees of sleep. It is more or less complete both as a whole, and in its separate parts; for you must have gathered from what we have said, that sleep is a complex state, since the name is given to the hushed condition of the five senses, the suspension of voluntary motion, and that peculiar condition of the mind to which we have adverted. An eminent French Physiologist said,—"Le sommeil général est l'ensemble des sommeils particuliers." We have seen that there are very different degrees of intensity in

^{*} Dr. CARPENTER'S General and Comparative Physiology, § 156.

the sleep of one sense at different times; but I have now to call your attention to the fact, that one or more senses or faculties may be wakeful, or nearly so, while the rest are profoundly asleep. Thus the organ of hearing is often sufficiently impressible to convey sensations to the sleeper, which are mingled with the ideas of his dreams and suggest new scenes, and often with the greatest rapidity,—so much so, that in the short time which elapses while the noises are occurring, a long period may seem to be occupied by scenes and actions suggested to the dreaming faculties. I remember once in my sleep witnessing what I thought a prolonged storm of thunder and lightning, which I was able afterwards to trace to the light of a candle brought suddenly into the dark room where I had fallen asleep, and to the noise made in opening a door, the lock of which was never turned without a good deal of grating and rattling. Sensations derived from the skin may have a similar effect. The touch or grasp of a person arousing the slumberer, may suggest to his mind images of robbers or enemies, with whom he is struggling. A person having a blister applied to his head, fancied he was scalped by a party of Indians. And a friend of Dr. Macnish's "happening to sleep in damp sheets, dreamed he was dragged through a stream. Another friend dreamed he was stroking a kitten, which in consequence purred most lustily. On awaking, he found that the working of the heavy machinery of a neighbouring mill was slightly shaking his bed, and making the joints produce a sound like the purring of a cat."

By this incomplete sleep, this waking of some of the senses, and the consequent production of impressions which are mixed up with the ideas in the mind, we can easily explain the frightful dreams produced by many disorders of the stomach and other digestive organs.

Some of the most interesting examples of the incompleteness of sleep are met with in the locomotive system. I do not allude to the restless movements of the limbs, or to the change of position often observed in light sleepers, which are more of the nature of instinctive or involuntary actions, than of movements directed by the will. In ordinary and natural sleep, though we may dream of making great museular exertions both with hands and feet, we are lying quite inert; but when the sleep is less perfect, some of the muscles, through their nervous connections, may awake, and do the bidding of the mental images. A friend of mine awoke one morning desperately clutching and tugging at the strings of his night eap: he had been dreaming that a viper had fastened upon his throat, and he was doing his best to tear it away. The most common form of this partial sleep is Sleep-talking, in which the muscles of the voice answer to the ideas. A more inconvenient species is the waking of so large a number of the muscles as those which raise the trunk, and enable the person to walk; this is strictly Somnambulism, or Sleep-walking. But there are very different kinds and degrees of it. In the simplest,—that to which I have just alluded,—the sense of sight being still asleep, the person walks straight forward, unconscious of the impediments in his way, and is soon aroused, and very roughly, by coming in contact with obstacles. But in other cases of a more morbid kind, the eyes may be open, objects may be perceived and avoided in the sleeper's perambulations, and yet he may not be awake, for the images in his mind are as vivid as those which he derives from present sensations;

aud, therefore, the unreal is confounded with the real, as in the case of the ghost-seer, only that in the latter the morbid condition takes its starting place from the waking state instead of from sleep. As an example of the serious consequences of this condition, I may remark that I know of a gentleman who, in this imperfect sleep, got out of bed, walked to the window, opened it, and let himself fall down from three stories' height, doubtless under the illusion produced by the mixture of the vivid conception of a dream, with the actual perception of some of the objects around him. As the ghost-seer views the phantom walking among the living, so this somnambulist, when he opened the window, might have had a beautiful garden spread before his mental eye upon which he thought to step out, instead of incurring a dreadful fall, that nearly cost him his life.

It is quite impossible to attempt entering at all satisfactorily into this subject on the present occasion: but I may give one further instance of incomplete sleep, or partial waking, in the case of a person who talks in sleep, while at the same time the sense of hearing is awake. I have heard that this is so often the case with one person that, by a little skilful management, long dialogues may be held with her while she sleeps. It is necessary to speak in an under tone, or the impressions on the auditory nerves are so strong as to awake her completely; but with this precaution, and by taking the cue from what she has said in her sleep, questions may be interposed to which she will give answers very unreservedly, so that a dishonourable person might steal from her, in these unguarded moments, the most cherished secrets. On waking, she is quite unconscious of having held these couversations, except as in ordinary dreaming.

Sleep may not only become imperfect after having been complete, but it may also be so from the commencement, in consequence of unfavourable circumstances. Thus a person may fall asleep on horseback; but some of the muscles continue in action sufficiently to preserve the equilibrium, and even to keep hold of the bridle. I have sat by a coachman who was fast asleep as to his senses, but so far awake as to the motor nerves and muscles, that he remained erect on his box, and did not allow the reins or the whip to fall. It is curious to watch, in such cases, the alternation from sleep to waking; thus by a jolt of the coach the driver would awake for an instant, be aware of his condition, give the whip a languid flourish, and then go off to sleep again.

It is, however, well-known that persons may fall asleep even while in the act of walking. This fact was observed among our soldiers in the forced marches during the retreat upon Corunna. The sleep in such cases is partial.

I should, in connection with this department of my subject,—imperfect sleep,—here speak of double consciousness; but before doing so, I must say a few words about waking.

The process of waking, like that of falling asleep, may be sudden or gradual; the latter is, perhaps, the most natural change. If we watch a person undergoing it, we may observe him first moving his limbs, then changing his position, then opening his eyes, which however he may close again, and relapse into sleep; then speaking some incoherent matter, as it seems to us, but no doubt rational to him, and conformable to his dream; then he gives a sort of answer to some question we have put, but still wide of the mark; then there is a second opening of the eyes, a stare, a sudden burst of the truth of things, as it seems to us, but to him the

exchange of one reality for what was, a moment before, reality to his apprehension, though he now acknowledges that it was all shadowy and fanciful; then he stretches his limbs, that is, puts them from a state of flexion into one of extension, yawns, perhaps, and says he is still weary, and must sleep again:—

"The messenger approaching to him spake;
But his waste words retourned to him in vaine;
So sound he slept that nought mought him awake.
Then rudely he him thrust, and pusht with paine,
Whereat he 'gan to stretch; but he againe
Shooke him so hard, that forced him to speake.
As one then in a dreame, whose dryer braine
Is tost with troubled sights and fancies weake,
He mumbled soft, but would not all his silence breake."

Spenser, C. 1, 42.

But in other cases the transition from sleep to waking is sudden; it may be so from a strong desire present when we fell asleep to do something important after rising, which desire recurs to the mind immediately on waking. But sometimes the transition is quick, merely because the sleep was very light. The individual is sometimes unconscious of having slept; after very deep sleep, for instance, when the dreams were so feeble as not to be remembered. When he has slept pretty soundly, he is generally conscious of having done so by the great change of the waking sensations. If his sleep has been uneasy and imperfect, he often denies that he has slept at all. He has been in a quick alternating succession of sleeping and waking states. The sleeping states have been so mixed up with outward sensations, and the waking states have had so much of drowsiness in them, that when he is fairly awake he entertains a strong impression

that he has been awake the whole time. The waking impressions run into each other, and give the idea of uninterrupted continuity. Thus, I remember once sleeping uneasily in the house of a medical friend, whose night-bell rang three times in the course of the night, and in the morning I could hardly be convinced that there had not been an incessant ringing of bells the whole time.

Often we awake, feeling very weary. This may arise from excess of mental action in dreaming, and from unpleasant feelings. But sometimes it is only a residual torpor in the nervo-motor apparatus, which goes off as soon as we are out of bed. At other times, however, it is real languor dependent on the want of nourishment, and is removed immediately by food. Some persons sleep more in a given time than others: that is, the sleep is more complete, and the refreshment, consequently, more decided.

The mental invigoration is sometimes very remarkable. Difficultics which posed the individual when he fell asleep are now resolved in an instant. In Sir W. Scott's Life it is mentioned, that after composing a great number of verses over night he would sometimes come to a point beyond which he could not advance a step;—a refractory rhyme, an entangled plot, or some other poetic stumbling-block. In such cases he used to give the matter up, confidently expecting that on the following morning he would be able to surmount the obstacle before leaving his couch; an expectation which was scarcely ever disappointed.

Schoolboys used, in my time (I know not what they do now with modern improvements), to con over their lessons immediately before lying down, and on waking the task would be fresh and clear in their memories. It is surprising how rapidly one returns after a sleep, though it may have been spent in the busiest dreaming, to the train of thought that immediately preceded it. On awaking in the morning we take up the thread of a speculation just as we had left it on the mental distaff, when seduced into weaving thoughts of "such stuff as dreams are made of."

I now return to the consideration of double consciousness. We have seen that the apparatus of speech may awake and act in correspondence with the ideas of the dream only, or with those suggested by sounds, the sense of hearing being also awake; and also that the locomotive apparatus may be in action without the sense of vision, as in the case of the somnambulist who comes in contact with outward objects; or with a complete power of vision. This latter state abuts immediately on the present topic. The person sees, hears, walks, has, in fact, the ordinary attributes of the waking state, and yet is not awake. He may pass from that condition into ordinary slumber, and then wake up like other people; or the transition may be from the morbid condition to the ordinary waking state without intermediate sleep. This is double consciousness.

Of this state I shall adduce two instancas. The first is related by Professor Silliman, and quoted by Dr. Prichard. "A lady of New England, of respectable family, became subject to paroxysms, which came on suddenly, and after continuing an indefinite time, went off as suddenly, leaving her mind perfectly rational. It often happened that when she was engaged in conversation she would stop short in the midst of it, and commence a conversation on some other subject, not having the remotest connection with the previous one; nor would she advert to that during the

paroxysm. When she became natural again, she would pursue the same conversation in which she had been engaged during the lucid interval, beginning where she left off. To such a degree was this carried, that she would complete an unfinished story or sentence, or even an unfinished word. When the next paroxysm came on, she would continue the conversation which she had been pursuing in her preceding paroxysms; so that she appeared as a person might be supposed to do, who had two souls, each occasionally dormant, and occasionally active, and utterly ignorant of what the other was doing."

The second example was published by Dr. Dyce, in the Edinburgh Philosophical Transactions, and is quoted by Dr. ABERCROMBIE. "The patient, who was a servant girl, was first attacked by fits of somnolency during the day, which came on with a cloudiness before her eyes and a pain in her head. In these fits she talked of scenes and transactions which appeared to be as in a dream, used to follow her occupations, dressed herself and the children of the family, and laid out a table correctly for breakfast. Being taken to church during the attack, she behaved properly, evidently attended to and was affected by the preacher, so as to shed tears. During the attack her eyelids were generally halfshut; her eyes sometimes resembled those of a person affected with amaurosis, that is, with a dilated and insensible state of the pupil, but sometimes they were quite natural. Sho had a dull, vacant look, but when excited knew what was said to her, though she often mistook the speaker: it was observed that she discerned objects which were but faintly illuminated. The paroxysms generally continued about an hour, but she could be roused out of them; and then she yawned

and stretched herself, like a person awaking out of sleep. At one time she read distinctly a portion of a book that was presented to her, and she sang much better than in the waking state."

Dr. ABERCROMBIE thought that no explanation could be found for these cases. It might, therefore, seem rather presumptuous if we were to attempt anything of the kind: but we shall venture on one or two remarks which may tend to elucidate the subject.

The healthy waking of the mind is the resumption of the form of consciousness which existed previously to sleep. The objects before the eyes have the same aspect and the same associations; the thoughts return to the same channel; the occupations of the previous day, and those projected for the ensuing day, are remembered, and there is no confusion of personal identity. But a man may awake up to the outward world, and that world is all changed to him. His eyes are open, and his ears catch every sound, and he can feel and handle. But, alas! how delicate and fragile a thing is perception! All has gone wrong. He is awake, and he looks around his chamber in which he has every day, for years, hailed the morning sunshine. It has once more lighted up his household gods; and dear familiar faces are anxiously bent on those eyes which look, and yet have no speculation in them; and gentle voices hail, and condole, and soothe, and number up many a word and name, which but the day before would have been key-notes to his heart's sweetest harmonies; but all is now jarred and "jangled out of tune." He looks out on a new world projected from his own inner being. By a melancholy power, a fatal gift, of appropriating and assimilating the real objects perceived by his senses, he takes possession of them, nay, disembodies them, and fuses them into his imaginary creation. And as for those beloved beings who fondly think themselves linked with all his strongest and most tender memories, he takes no more note of them than as they swell that strange fantastic pageant which floats before his bewildered fancy; they are mere dramatis personæ in the mad farce or tragedy which his poor brain is weaving. They are all shadows; no more the dear flosh-and-blood realities of his heart; they are metamorphosed into the unsubstantial figments of a distempered imagination.

What is the explanation of all this? It is, that all things relatively to the percipient mind are as they seem:—

" Nothing is; but all things seem."

For to seem, is to be seen in a certain relation. No outward sensation is perfectly isolated; it is always connected with some other, past or present, from which it may take, or to which it may impart its hue, and tone, and character. Perception, as distinguished by metaphysicians from sensation, is resolvable into this. The individual we have been describing is awake, but awake with a new consciousness. In the morbid state of his brain, ideas (using this word as representative of the results of internal operations of the mind, as distinguished from those received from without,) have so undue a vivacity and preponderance, that outward objects are no longer viewed in their former associations; they are made subordinate, and mere appendages, as it were, to the internal changes. It is a frightful excess of what, to a certain extent, is often taking place in healthy but powerful minds, which impress their own individuality on the external world. The speculative philosopher who views outward objects in relation to some comprehensive theory elaborated in his own mind, to which he fits all that he sees and hears, is the subject of a somewhat like process of thought. So, also, is the creative artist, who does not content himself with barely imitating nature, but who looks at nature through the media of his peculiar faculties, and, having invested the objects with a beauty and sublimity derived from his own mind, represents them with those forms and colours on the canvas or marble. His own subjectivity is first thrown upon the outward world, and then by his art made objective to other eyes.

From these and like considerations, we can better understand the phenomena of double consciousness. In this unusual state, the individual, though awake, perceives objects only in relation to the new phase of the mind, which has lost its habitual memories, and emotions, and sentiments, and is the temporary subject of a different group,—so different, that they change for the time the mental identity; for identity is the me,—the ego, around which remembered objects and ideas are clustered, while they are at the same time interpenetrated with an infinite variety of emotions and sentiments, and harmoniously mingled with present perceptions.

What, then, is the test of healthy waking or consciousness? To the individual himself, one state is as healthy as the other; but we, observing him, take a different view. Our test is the correspondence of his perceptions with our own, or with those which ordinary people receive from the external world. Common opinion is the necessary standard. Anaxagoras was thought mad when he told his countrymen

that the sun was larger than the Peloponnesus. They could not follow his process of thought; their minds were not as his mind, nor their knowledge as his knowledge; therefore, to them he could not but seem insane. And here we cannot help remarking how extremes meet. The sublimest speculations, and even inspirations, seem to lie on the very brink of delirium. In uncivilized nations, the madman has often been venerated,—not merely as one under the stroko of heaven,—but, also, as one having mysterious access to wisdom withheld from the generality of mankind. But, setting aside the rare cases in which one man is wiser than all the world beside, if a person sees the outward world in an entirely different aspect from that of other people, he is unsound.

The double consciousness, then, is only the alternation of healthy and morbid conditions of mind (lucid and insane oscillations), even though in the morbid state there may be achievements of memory and the other mental faculties not attained to in the waking condition.

You will not, I dare say, regret to pass from the clearobscure of metaphysics into the broad day light of matter; for we have now to speak of the central nervous organs in reference to sleep.

You are probably aware that there are two kinds of nerves; those of sensation, and those of motion. Of the *sympathetic* nerves we have no occasion to speak. The nerves of sensation are connected, either directly, or through the spinal cord, with certain portions of the brain called the sensory ganglia, the chief of which are the corpora quadrigemina and thalami optici. To these centres of sensation

are conveyed the impressions made by outward agents, and here they probably become objects of consciousness.

The nerves of motion communicate with the spinal cord, the medulla oblongata, the corporata striata, and the cerebellum.

The sensations formed in the sensory ganglia are transmitted to the hemispherical ganglia, otherwise called cerebral lobes, or brain proper. Here they may be reproduced in the processes of memory, and become the materials of those complicated mental operations which belong to imagination, abstraction, reasoning, &c., or be associated with the emotions and higher sentiments of the soul.

The corpora striata are the centres of volition, and the ideas or wishes generated in the cerebral lobes are carried into effect by the nerves of motion, through the impulses transmitted from the corpora striata to the spinal cord. But there is a close relation between their action and that of the cerebellum, which is the organ whereby the complicated motions, and probably the feelings of equilibration, are coördinated in standing, walking, running, &c.

The medulla oblongata is the centre of those important nerves which govern the vital acts of respiration, as well as of those employed in deglutition.

The spinal cord, or series of spinal ganglia, so far as it is an independent source of action, and not a mere conductor of impressions from the nerves of sensation, or of impulses from the centres of volition, is subservient to the functions of the organic life.*

Having sketched thus briefly the chief divisions of the

^{*} These anatomical explanations were facilitated by reference to some excellent diagrams drawn for me by my friend, Dr. BRITTAN.

nervous centres, we can point out their connection with sleep. In healthy or perfect sleep, action is suspended in the sensory ganglia, the corpora striata, the cerebellum, a considerable portion of the hemispherical ganglia (some portions being employed in dreaming), and those parts of the spinal cord which are used in the transmission of sensational impressions or volitional impulses. The medulla oblongata must not sleep, or respiration would stop. Yet it is probable that between the respiratory movements there are pauses in the action of this nervous organ, like the repose of the heart between its diastole and systole; but there is no such continuous cessation as corresponds with what we understand as sleep.

Of imperfect sleep the most common form is sleep-talking. The nerves which animate the vocal muscles are awake, and answer to the ideas and emotions produced in the hemispherical ganglia. In simple sleep-walking, or the minor degree of somnambulism (the senses being still asleep), the cerebellum is awake, and perhaps also the corpora striata in some degree, and the related portions of the spinal cord. But in that form of somnambulism in which the subject of it sees and hears, though under the influence of the dream, the parts awake are the sensory ganglia, the corpora striata, portions of the cerebral lobes, the cerebellum, and the related portions of the spinal cord. The difference between this state and that of the ordinary waking condition belongs to the psychological actions connected with the hemispherical ganglia.

But what is the change that takes place in the nervous centres when their action is suspended? A difficult question; difficult because the mode in which nervous matter

subserves its functions is but very imperfectly known. In other words, we know but little of the nature of that action, the remission of which is sleep. Yet all analogy intimates, -and actual investigation confirms the hint,—that in the active state there is a certain intercourse between the blood and the minute structure of the part, whereby something from the blood is consumed and the nervous matter undergoes chemical transformations. This occurs in all vital action; and the economy of the frame is such, that this expenditure, or elaboration, is not going on at the same time in all parts of the body. In excessive action of any of our organs there is a drain on the rest of the system, so that if the emotions and the will, or strong outward causes of excitement, keep the sensory and the hemispherical ganglia at work, when they ought to rest, not only must these organs suffer, but the whole body also must be more or less deranged. Of course I am aware that many frames feel this much more than others. But that in the waking state, unduly prolonged, there is a great consumption, not only of what we vaguely call power, but also of real material, is obvious from the fact that considerable loss of flesh will ensue, and to an extent greater than can be explained by mere derangement of the digestive functions. And, on the other hand, in those who indulge too freely in sleep there is a manifest tendency to plethora and obesity. Recent chemical researches have proved that "sensation, motion, and thought are as closely connected with certain processes of oxidation going on in the body, as the light and heat of flame are connected with the oxidation of the burning materials; and also that narcotic vapours, like chloroform and ether, have the effect of retarding, or arresting, these processes of oxidation."* In sleep, then, there is a spontaneous suspension of those changes. You will not infer from these remarks that cerebral functions are mere chemical processes; but only that these are the physical changes in the parts instrumental to the operations of the immaterial principle.

The nearest approximation, then, towards an answer to our question is, perhaps, this;—that natural sleep is the result of exhausted action in certain portions of the nervous system; that time is required for refitting the materials of the nervous structure itself, that is, of the matter which is to be oxidated, as well as for recruiting the blood; and that no more intercourse can take place between the blood and the specially vital function of the nervous matter, without the consumption of what is required by other parts of the body.

But though this is the ultimate change in natural sleep, the sleeping condition may be induced with but a very small degree of such change, by the mere influence of subsidiary circumstances,—some of which, like narcotics, are altogether artificial, while others may be reckoned as natural auxiliaries.

Of these we have now to speak, and the first that I shall notice is vascular pressure. It is familiarly known that compression will benumb the sensibility of a nerve, as in a limb resting on the edge of a hard seat. Analogy would lead us to expect a like result from compression of the nervous centres. But independently of analogy, we know it to be the fact from various circumstances. Thus, a man had lost a portion of his skull by an accident, and the brain, being only covered by soft parts, could be easily subjected to pressure;

^{*} Dr. Snow on the Action of Narcotic Vapours.—Medical Gazette, April 11, 1851.

and at any time he could be sent to sleep by gentle pressure of the finger on this portion of the head. Again, there are certain diseases in which the brain, pent up in its bony case, is liable to pressure. It may be from excessive fulness of the blood vessels themselves, constituting one kind of appoplexy, which is the extreme of morbid sleep; or it may be from blood poured out of a ruptured vessel into the brain or its cavities; or it may be the increase of a thin fluid, called the cerebro-spinal fluid, which fills the cavities of the brain, and surrounds its outer surface, as well as that of the spinal cord. The morbid accumulation of this fluid is "water on the brain," and the existence of the disease is often denoted by extreme somnolence, which passes into what is technically called coma, that is complete insensibility.

From facts of this kind, then, it may be urged that as sleep resembles these states, and is indeed a minor and transient form of that abolition of cerebral functions which belongs to them all, it is probable that sleep has a like causation, and that before its accession a certain amount of pressure takes place in the brain. This seems still more probable, when we observe that people are prone to drowsiness if the system is plethoric, and, also, that recumbence is the natural inducement to sleep; the effect of lying down being to retard the return of blood from the head, and so to produce some relative fulness of the vessels. This state, however, is not essential to sleep, for persons may slumber in the upright posture, though few can do so soundly. There is, then, very abundant reason for believing that a moderate degree of pressure on the brain is a natural disposer to sleep. But this fact has been so strongly pressed on the minds of two physiologists, that they have imagined that there is a

special provision for the production of vascular pressure. Thus Dr. Osborne, of Dublin, in a very ingenious paper published some years ago,* endeavours to show that the choroid plexus is the organ of sleep. Now, the objection to this view is, that there is no proof that these vessels are particularly distensible or susceptible of any such degree of fulness as to warrant our supposing them to have this function, though their situation, lying as they do upon the sensory ganglia, seems to me to be favourable to Dr. Osborne's hypothesis.

Dr. Marshall Hall, to whom the modern physiology of the nervous system is so much indebted, had a notion that a spasm occurs in the deep-seated muscles of the neck, before the supervention of sleep; and that the muscles in this contraction compress the veins, and so produce a temporary turgescence of the vessels of the brain. But it is yet to be proved that this occurs as one of the antecedents of ordinary sleep, however true it may be as to morbid conditions.

We now pass on to the consideration of other circumstances favourable to sleep. After what we have said about the proximate cause, it is almost superfluous to remark, that one of the natural antecedents is a certain amount of exercise of the brain. Its repose is the consequence of its exertion. But in different individuals we observe great differences, as to the amount of exertion necessary to induce this tendency to inaction. Some have so sluggish a nervous system, so little propensity to spontaneous action, that if they are only not stimulated into wakefulness, they are perpetually dozing. In others, the nervous activity is so marked, that it is only after strong and prolonged exertion of mind that sleep visits

^{*} Medical Gazette, June, 1849.

their eyelids. Minds of equal capacity, acuteness, and vigour, may vary extremely in their capability of sustaining labour and diminution of repose. Those who enjoy a very robust cerebral organization, require a greater amount of mental labour to tire them down sufficiently for sleep; and they are refreshed by an amount of sleep quite inadequate to the wants of others. It is impossible to lay down a law inclusive of all individualities in this particular. I have known a person of very active mind and literary habits unable to sleep when leading the life of a sportsman, simply because, though he was fatiguing his muscular system, he had not worked the percipient and reasoning parts of his brain sufficiently; so that when his limbs were at rest in bed, his brain did not choose to take the same time for repose. It had been slumbering all day. I need not remark that this individual enjoyed an unusual degree of cerebral activity. Many a weary statesman and philosopher would sleep under like circumstances, the brain being ready for slumber whenever it has an opportunity. But there is an altogether different result of excessive mental fatigue not unfrequently met with. In common language, a person goes to bed too weary to sleep. In this state, the overaction of the organ continues; it cannot pass into the natural alternation of inactivity, and it is probable that the cause is to be found in the local circulation. Blood having been attracted to the brain with too much vehemence, and for too long a time, the self-adjustments with which the vessels are provided cannot come at once into action. The vessels cannot at once resume their former dimensions, and the flow through them continues in the same quantity. We see this in other parts of the body. the eye has been subjected to an inordinate amount of light,

and for too long a time, the vessels which had been unduly injected remain in this state for some time after the light has been withdrawn. Or without taking the vessels into account, we have another proof of the same thing, in the luminous impression which remains on the retina.

And here I may remark, as a convenient place for the observation, that the brain, like the optic nerve, does not readily part with impressions of great vividness, so as to lapse into sleep; or if sleep does come on, the ideas still continue unaltered. How common is it for persons to say that they have been too much excited to sleep. New company, intensely interesting conversation, new sights, unexpected intelligence, &c., are all sufficient to prevent the accession of sleep, by reason of the unusual vividness of the impressions, -the vividness being dependent on their nature, or their degree, or their mere novelty; a new impression being cateris paribus, more vivid than one repeated. A person cannot sleep away from home. This may generally be traced to the fresh objects and impressions. But some aver that they cannot sleep in a strange bed, without reference at all to the preceding or accompanying circumstances, or to the comfort or discomfort of the bed; and I do not disbelieve them. The sensibility of some persons is no measure for that of others, as to the corporeal functions, any more than as to mental conditions. A new bed may, in its arrangements, make a number of new impressions on the cutaneous nerves not possible to be individually specified; but, in the aggregate, bringing an amount of new and vivid sensation to the brain, incompatible with the supervention of sleep.

To return. For natural sleep, a certain wholesome amount of cerebral fatigue is necessary. To enter upon all the auxiliary or interfering agencies would take me into a discussion far too protracted; and I am treating the subject in its scientific, rather than in its practical aspects. A very few words may suffice.

The effect of posture was touched upon when we spoke of the blood vessels, in relation to the nervous centres. I shall now add, that general plethora tends to somnolency by the pressure on the brain, and that this must not be confounded with the effect of excited capillary circulation, which causes excessive functional activity of the brain, and sometimes obliges the subject of it to support the head on higher pillows than what are ordinarily used.

The influence of food is matter of common remark, and, at first sight, seems to be beset with many anomalies and incongruities. Early dinners or late dinners, supper or no supper,—these have their respective advocates. To me the truth of this matter is comprehended in a small compass. During the process of digestion, the brain, unless stimulated by alcoholic liquids, is disposed to quiescence by that law of balance of function to which I have already adverted, There is a diversion of vital energy (through the nerves and blood vessels), from the brain to the stomach. Sleep in this state is natural, and comports with what we observe in the lower animals. Yet we must take care not to rush at once to the conclusion that it is well to take a nap after dinner, and to eat a good supper before retiring to rest. Our whole mode of life, in modern civilization, has become so artificial, that there is need of constant compromise and conciliation. No rule can be laid down without a knowledge of the health and habits of the individual. Digestion is sometimes absolutely disturbing to sleep. When it is accomplished with

difficulty, morbid impressious on the nerves of the stomach reverberate in the brain, keeping it awake, or suggesting strange or even miserable dreams. On the other hand, the nerves of the stomach instead of fretting over their work, may be unhappy for want of occupation, and their cravings also echo in the brain, and disquict that noblo organ! Or without these importunate complainings from the stomach, the brain goes on working, simply because it is enjoying a monopoly of vital energy, while the other has no employment. The very heavy and all but apoplectic sleep of those whose hands have been too generous to their mouths, has its cause in the pressure on the brain, induced by the over-filled blood vessels, to say nothing of the direct narcotic influence of some of the ingredients. But this is a subject too humiliating to the higher part of human nature to deserve consideration in the transactions of an institution devoted to Philosophy, Literature, and the Finc Arts, and therefore I shall say no more about it!

Though sleep is usually promoted by the absence of light and sound, a certain amount of either may be necessary. A person accustomed to a light in the room, may be unable to sleep without it,—nay, to awake if it is withdrawn. And wakefulness may be induced by the subsidence of an accustomed noise; the habitual loss of the impression on the sensory nerve being tantamount to a new impression, because the nerve is in an unusual condition.

But some sounds are absolutely lulling. Unvarying sounds are generally so;—"the droning flight" of the beetle; the "drowsy tinkling" of the sheep-bell; the rippling of water; the sighing of the wind among trees and sedge; the deep boom of the sea; or, as old Burton says, "to have a basin

of water still dropping by one's bedside, or to lye near that pleasant murmur, lene sonantis aquæ, some flood-gates, arches, falls of water, like London bridge, or some continual noise which may benumb the senses."

This effect is prettily described by Spenser:—

"And more to lull him in his slumber soft,
A trickling stream, from high rock tumbling downe,
And ever drizzling rain upon the loft,
Mixed with a murmuring winde, much like the soune
Of swarming bees, did cast him in a swoune."

C. I., Stanza 41.

Not only undulating sounds, but also undulating sights conduce greatly to sleep. Those regular and almost rhythmical movements of the hands before the eyes, sometimes practised by magnetizers, have a stupefying effect, and induce sleep, though it is usually of an imperfect kind, like that of the somnambulist, and, as such, productive of strange phenomena in the nervous system, which prove very exciting to the speculations and fancies of those who delight in mysticism. Gentle friction of the skin, inducing, as in the other cases, a succession of uniform impressions, is also very sedative.

Dull monotonous thoughts suggesting no lively images, no sallies of wit, no "fancies fine," no manœuvres of reasoning, should be encouraged by him who is anxious for sleep. Let him read or listen to a stupid author, not stupid enough however to irritate him, or let him count by simple numeration, or say over to himself some droning rhyme.

"Oh! dearest lady, rest your gentle head Upon my lap, and try to sleep awhile; Your eyes look pale, hollow, and over-worn With heaviness of watching and slow grief. Come, I will sing you some low, sleepy tune,

Halan (dit of En. 3: 161.) skeeping of the Freek pastorne mance. The astree of D'Wrfe, containing 5500 pages,

Not cheerful, nor yet sad; some dull old thing, Some outworn and unused monotony; Such as our country gossips sing and spin, Till they almost forget they live."

These different methods of inducing sleep have all one element in common, that of annulling the sensibility of a nerve, or a portion of the brain, by the mere repetition or, rather, the continuance of a single impression, or of a single group of impressions.* The retina kept by a strong act of

 The following method of procnring sleep at will is recommended by Dr. BINNS.—(Anatomy of Sleep, p. 435.)

"Let the patient turn on his right side, place his head comfortably on the pillow, so that it exactly occupies the angle a line drawn from the head to the shoulder would form, and then slightly closing his lips, take rather a full inspiration, hreathing as much as he possibly can through the nostrils. This, however, is not absolutely necessary, as some persons hreathe always through their mouths during sleep, and rest as sound as those who do not. Having taken a full inspiration, the lungs are then to be left to their own action, that is, tho respiration is neither to he accelerated nor retarded too much; hat a very full inspiration must be taken. The attention must now he fixed upon the action in which the patient is engaged. He must depict to himself that he sees the hreath passing from his nostrils in a continuous stream, and the very instant that he hrings his mind to conceive this apart from all other ideas, consciousness and memory depart; imagination slumbers; fancy becomes domant; thought ceases; the sentient faculties lose their susceptibility; the vital or ganglionic system assumes the sovereignty; and, as we hefore remarked, he no longer wakes, hnt sleeps. For the instant the mind is brought to the contemplation of a single sensation, that instant the sensorium abdicates the throne, and the hypnotic faculty steeps it in oblivion. It will happen, sometimes, that the patient does not succeed on the first attempt. But he must not be discouraged. Let him persevere, taking in full inspirations and expirations for thirty or forty times, without attempting to count them, for if he does, the act of numeration will keep him awake; and even should he not succeed in inducing very sound sleep, he will, at least, fall into that state of pleasing delirium which is precursory of repose, and which is scarcely inferior to it. Many trials have satisfied us of this."

the will fixed on a particular point, will become temporarily blind; and by that wonderful sympathy so marked in the nervous system, the inaction so induced will extend to the other parts of the sensorium, and the individual will fall into what Mr. Braid calls Hypnotism. The continuance of one unvarying sound, as we have before remarked, has a like effect. Between the repetitions of the sound there must not be an interval sufficient for the recovery of sensibility in the nerve, else the effect may be quite reversed. Thus, I remember a lady told me that one kind of sound which old Burton speaks of, had anything but a soothing influence. I had directed her to take a shower bath before getting into bed. Some of the water left in the reservoir dripped into the tin vessel at the bottom. At first, she thought this sound would lull her; but the intervals were too long. She was either nervously expecting the next drop, or, when it came, it came as a new impression, and roused her up; so that, as she said, instead of sending her to sleep, it drove her almost mad. There must, then, be a certain continuity of sound. And the same applies to all images in the mind. I have found nothing answer better than imagining one's self floating on a vast expanse of water; or, trying to image to one's self the Pacific Occan, and fancying we are sailing upon it, while

> "The sky and the sea, and the sea and the sky, Lie like a load on the weary eye."

It is interesting to observe that whenever the poets are engaged in describing the objects around sleepers, they not only by their instinct or inspiration assemble objects more or less fixed and unvarying in form and hue, together with motions of great sameness, but their very metre falls into monotony, or the repetition of like sounds. Thus, TENNY-son, in the "Lotos Eaters":—

"'Conrage,' he said, and pointed to the strand;

'This mounting wave will roll us shoreward soon.'
In the afternoon they came nnto a land
In which it seemed always afternoon;
All round the coast the languid air did swoon,
Breathing like one that hath a weary dream;
Full-faced above the valley stood the moon;
And, like a downward smoke, the slender stream
Along the cliff to fall, and pause, and fall did seem."

But all corporeal or physical auxiliaries,—darkness, or a soft subducd light,—silence, or lulling murmurs,—the langour of gentle fatigue,—a well-adjusted couch,—a familiar chamber,—and a sound digestion,—all these will be of no avail if he, who courts the oblivion of slumber, lies down under the sway of some strong emotion. The mere intellect may yield up its most favourite speculations or remembrances to the sleepy time and influences; but the passions are not so easily hushed, and their vigils are extended to every part of the system. The throbbings of the heart,—the pantings of the respiration,—the watchful ear,—the searching eye,—the tortured memory,—the busy fancy,—the harassed judgment,—all give tokens of the spell by which they are bound:—

"Not poppy, nor mandragora, Nor all the drowsy syrups of the world, Shall ever medicine thee to that sweep sleep Which thon own'dst yesterday."

Therefore, he who would sleep well should join in the prayer of Dr. Johnson, for

" Obedient passions and a will resigned."

Add to these the calming influence of a conscience void of

offence towards God, and towards man, and we are in possession of the best mental preparation for gentle slumber. "When Ptolemy, king of Egypt," says an old writer, "had posed the seventy interpreters in order, and asked the nineteenth man what would make one sleep quietly in the night, he told him the best way was to have divine and celestial meditations, and to use honest actions in the day-time."

Our last question is, What is the final cause of sleep? Why should the senses and voluntary motions be suspended? Why have they not been allowed to continue uninterrupted, like the pulsations of the heart, and the action of other organs? But, after all, no organs of the body are really sleepless. The heart, in the midst of its seemingly continuous pulsations, has its halt. The lungs rest at the end of every expiration. The stomach is not, or ought not to be, always at work. The great difference is, that while the organs of the vegetable life take their repose in snatches, frequently returning, those of relative life have long spells of sleep, and then uninterrupted work. But without dwelling on this view, it would be easy to shew that were sleep abolished, the whole economy of the body would require to be altered. Were the nervous organs of sensation and voluntary motion to continue in unslackened exercise, they must have a corresponding supply of blood; but as that which must then be expended upon them could not be applied to the wants of other organs, as is now the case in sleep, a greater quantity of blood must be formed. This requirement must entail a change in the dimensions and qualities of the blood vessels, in the propulsive powers of the heart, and a change in the apparatus of respiration. But

the formation of the increased quantity must engender the need of increased digestion and assimilation; and the organs devoted to these functions would require an increase in their extent and endowments, not only for their greater amount of function, but also because they would no longer perform it under the present favourable circumstances, incident to the state of repose. Many other illustrations might be given of the disturbance which must occur in the whole of the present system. Supposing, however, that such a change were effected, and the animal organization moulded on an entirely new plan, how would it stand in relation to the circumstances in which it exists? More food would be required; and, in many cases, this is by no means more than adequate to the present used both of man and animals. More air must be consumed. And it is questionable whether, to the supposed sleepless organisms, the present density of the atmosphere and proportion of oxygen would be adequate. Whether such consumers, and, I might add, vitiators of air could be as gregarious and social, might be doubted. But without dwelling upon any other arrangement of external nature than that of darkness, this surely would be enough to shew the harmony subsisting between the sleep of animals aud the media of their existence. For the exceptions in the case of predatory mammalia, or of animals which in their burrows and caverns have, even in the day-time, a night spread around them, are trifling in comparison with the hordes that toil and bask and sport in the sunshine. How would the hours of night pass to animals capable of sense and motion, yet debarred from the exercise of them, and having no such resources as belong to reflective man under

similar circumstances? But not to press the argument further, we might ask what would be gained by this evervigilant state? It may be suggested that there would be more time for man to work in, to do his mighty deeds, to realize his visions of glory and his schemes of benevolence. For the lower animals,—more time to feel the pleasures of their limited existence, and to enjoy the exercise of such facultics as they possess. But, is the feeling of existence in these beings always one of pleasure? Are their powers always exerted with delight? Would it be a gain to the timid deer, that their fleetness should unceasingly be called into action to elude the chase of the sleepless wolf? Would it add to the happiness of the gentle dove, to expect the downward swoop of the hawk in the night as well as day? And are man's thoughts so free from evil, that they could be trusted to engender actions all the livelong hours? Surely it is better that the hand of the violent man should be stayed by sleep's soft compulsion. Better that the busy, plotting brain, devising mischief, should be caught and entangled in its own dreamy meshes. Better that the lips of the tyrant should be sealed for a few hours, for mercy instead of doom may drop from them after the night's calm and refreshment. Better that the world should have a respite, if not a reprieve, from the horrors that await the waking of armed men. It is something gained if only a few hours are saved before the sky is red with the light of flaming cities, and the air afflicted with groans and wailings, and curses and war-cries.

But we need not contemplate sleep as the mere interruption of deeds of crime and scenes of violence. Its associations have more of gentleness than of terror. To sleep is to pause from the hurrying whirl of life; to rest after all its toil, and struggle, and agitation; to see no sights of pain and grief, and "all the ill things that are done i'the sun;" to hear no sighs, "no stifled sobs, no loud lament;" to forget all cares, and losses, and heart-aches. It is, in fact, to fall into a state which seems to comprehend within it all that is most gentle and soothing in idea,—an epitome of pathos,—an ever-recurring text of mercy and type of tenderness,—an armistice between the contending powers of good and evil,—a relaxation of the

"dread strife
Of poor humanity's afflicted will,
Struggling in vain with ruthless destiny."

In this merciful state,—perhaps a third part of an existence,—the prisoner may be for awhile set free, and the mourner no longer remember that he has cause to weep; the exile may visit the home and the pleasant fields he has left for ever; and the living may once more meet the dead, and forget that they are the dead. Nor let it be rashly interposed, what boots it that we have such cheering and soothing visions, if we awake and find them all shadows? For we may ask in return, would anyone repel the approach of happy prosperous hours, because they must pass away, and sharpen our after-perception of crosses and sorrows which cannot be kept aloof? In one sense we may say, "is not the past all shadow?" And when we awake from the slumber of death to the realities of a future existence, this life, except for its influence on our destiny, may seem as if it had been spent in one of the many districts of dream-land.

In sickness, no language can exaggerate the blessed exchange, when the frame, racked by pain, shattered by convulsions, cramped by spasms, worn with long hours of restlessness, sometimes worse than actual pain, sinks at last into quiet slumber. So slept Beatrice Cenci;—

"How gently slumber rests upon her face,
Like the last thoughts of some day sweetly spent,
Closing in night and dreams, and so prolonged.
After such torments as she hore last night,
How light and soft her breathing comes!
But I must shake the heavenly dew of rest
From this sweet folded flower."

But lastly, there are benefits over and above this healing operation of sleep. While the bodily organs are infused with new vigour, the sensibility to all delightful influences of earth and sky is redoubled; and the mental faculties, however borne down by previous toil, are again buoyant and elastic. The reason is cleared and refreshed by mere rest; and the imagination has been supplied with new materials for its operations, so that poets and romance writers have actually sought in sleep and dreams for the replenishing of their stores. But I know scarcely any intellectual advantage derived from sleep, more decided than the healthy tone which it gives to subsequent thought. It cools down the feverish imagination of the evening; sweeps away the flimsy oversubtilized webs of metaphysical speculation; subdues the morbid apprehensions of the over night; and changes the sickly sensibility to human ills,—the shrinking from humanity and its wickedness and infirmities,—for an active sympathy with suffering man, a courageous desire to know the worst, and a robust resolution to encounter whatever may be painful or revolting in the paths of benevolence.

But it is superfluous to dwell upon these points, when we have a passage, from the greatest of poets, that sums up all the benign and healthful influences of sleep:—

"Sleep, the innocent sleep,—
Sleep that knits np the ravelled sleeve of care;
The death of each day's life,—sore labour's bath;
Balm of hurt minds; great nature's second course;
Chief nourisher in life's feast."

[In the foregoing lecture magnetic sleep was barely alluded to. Had we discussed the subject at all, we must have traversed the domains of Mesmerism, Clairvoyance, Electro-Biology, Electro-Psychology, Etherio-Biology, and what I dare say will be some day called Odylo-Biology! Dubious regions, dimly-lighted, phantom-peopled! where

"Truth that is, and truth that seems, Blend in fantastic strife."

To weigh, and sift, and test all the statements and doctrines connected with these subjects, and to determine what should be received, and what rejected, in the marvellous stories familiar to every body through the newspapers and journals, would be a long work, for which I have little leisure, less liking, and no vocation. And I doubt if any thing wortby of observation could be added to the jindgment delivered some years ago by Sir John Forbes, in an admirable little work, entitled "Mesmerism Trne, Mesmerism False."]

LECTURE II.

In our inquiry into the nature of Dreaming, the simplest, and, I think, the most philosophical course will be to ascertain, in the first instance, what the state of the mind in dreaming has in common with its waking condition, and then to proceed to consider the differences between them.

Every one, no matter how little accustomed to the analysis of his thoughts and feelings, must have noticed that a large proportion of the materials of dreams are derived from past experience; that they are the products of a kind of memory; but that they are often put together in odd combinations, not unlike the effects of a wanton or wilful imagination during the waking hours.

To pursue the proposed order of investigation, it will be necessary, even at the risk of being somewhat tedious, or of speaking of things already sufficiently familiar to my audience, to make one or two remarks upon memory and imagination.

The simplest form of memory is the mere reproduction of a sensation, or the return of a thought, or of a former emotion to the mind. When the recurrence of certain feelings and ideas is brought about by an effort of the will, such act of the mind is denominated recollection. But when the past images come unbidden, we say that they are the

products of mere remembrance. So that there are two kinds of memory,—the one passive, the other active. When the mind exists in its most listless state, past impressions and ideas, though of the faintest description, are revived in continuous succession. If the eyes are shut, and no sounds prevailing, these images may be almost unmingled with present perceptions, unless the internal organs give rise to uneasy sensations. But even when a full tide of fresh perceptions are rushing through the senses, they do not prevent the recurrence of by-gone images and emotions; on the contrary, as we shall see presently, they have a direct tendency to revive such images and emotions, and, in so doing, they often greatly enhance the pleasure or the pain of the present moment.

In active memory, we command the return of former impressions. It is true that these shadows of the past do not always come at our bidding; we may "call them from the vasty deep" of old experience, but they will not always answer. In exercising what dominion we have over them, we, however, do but subject them to the same laws as thoso which regulate the phenomena of passive memory,-the laws of association or suggestion. To take one of the least complex of instances. If I wish to recall the name of an absent person, I fix my mind attentively on his image; and then the place in which I last saw him, the time, the contemporary circumstances, and the conversation of other persons will also return to my mind, and very possibly bring in their train the name which was not suggested by the first presentation of his image. In a similar manner we recall a subject of discourse. In conversation we are sometimes interrupted, and, after the disturbing cause has ceased, we wish to take

up the thread where it was broken off; but to find it, we may be obliged to go back to a much earlier period in the conversation, and then the subsequent topics recur by means of those links of association which first brought them together.

It would obviously be quite out of my province to enter on the wide subject of the principles of association or suggestion; it will be sufficient to remark, that ideas, meaning by this word those states of consciousness not immediately produced by outward sensations, suggest one another, sometimes from the mere fact of their having formerly coexisted; sometimes from their similarity; sometimes from their contrast, as when the idea of a dwarf suggests that of a giant; and sometimes from proximity of place. At other times the connections are of a less casual nature. Such are the relations of analogy, of proportion, of cause and effect. I am aware that most of these principles may by a refined analysis, be resolved into mere association or proximal succession. I must not omit to remark, that not only the ideas are renewed in this manner, but also the various emotions that have been formerly associated with them; and, likewise, that they are liable to be summoned before us not only by other ideas, but, likewise, by present sensations, whether derived from without, or from the internal organs. And here we must notice an interesting fact which bears importantly on the subject of this lecture, namely, that impressions may be made on the sentient nerves which, although they do not give rise to perceptions, will excite in the mind ideas and emotions either painful or pleasurable. Thus, there are various forms of indigestion, which may produce the most distressing states of mind, filling it with all kinds of gloomy ideas, and yet not give rise to sensations, in the strict sense of the word.

The operations of fancy and imagination may be analysed into ideas suggested on some one of the principles of association to which I have adverted. Fancy is generally understood as the faculty which calls up related images; though they are often connected so slightly with the first thoughts, that to many minds they never occur at all; and they are such, for the most part, as produce sentiments of the beautiful, the sublime, the ludicrous, or the terrible. Persons are said to have a quick fancy, in whom remote ideas are readily brought together. Imagination is often used synonymously with fancy; but it is a faculty of a higher description. It not only, like fancy, brings together many striking images and thoughts, and combines them in new groups which have the most agrecable or painful effect on the mind, but it so combines them as to produce images of persons and places and things, that seem to be newly created.

The products of imagination are not, like those of fancy, loosely aggregated, so that they can be seen at once to be new combinations of old materials, but they are so artificially interwoven, and all in such keeping and consistency, that they seem to be struck out at once as new individuals. Hence, the possessors of the highest form of imagination might well be called poets, literally makers. But even in the dullest and least poetic, these so-called faculties may be at work. There is indeed the same distinction to be drawn between active and passive fancy and imagination, as between active and passive memory. In the course of our investigation we shall find sufficient illustration of the fact to which I have last adverted.

Having made these prefatory observations, which to many present may have appeared too obvious and familiar for mention, but which I have introduced on the presumption that some of my younger hearers may not have had it in their power to pay attention even to these bare rudiments of mental philosophy, I proceed to consider what there is in common between the processes of thought in sleep, and those in our waking hours.

A very considerable majority of revived impressions consist of objects of sight, so that some have even asserted that we never dream of anything else. But this is obviously a great misapprehension; for, independently of the fact that the persons whose forms appear to the dreamer frequently seem to converse with him, it might be proved from the ideas and feelings associated with the visual reproduction that something more than the impression of sight recurs to the mind. When the friend of by-gone times revisits us in sleep, we do not recognize his form merely as one that had been seen before; but with its presence return some at least of the occurrences in his life, the points in his character, his sentiments, and his familiar talk. So far is it from being true, that visual images only are produced in dreams, that it often happens that the remains of several sensations are simultaneously renewed. While our eyes seem be feasting on the most glorious scenery of mountains, forests, rivers and ocean, we may at the same time hear the roar of thunder, the songs of birds, the rushing of torrents, or the deep boom of the tide on the shore; we may inhale the fragrance of flowers, feel the soft breath of the sea-breeze, and hear the voice of the companion who sympathizes in our pleasure.

Still, it must be allowed that as the perceptions of the

organ of sight are the most frequent and vivid of our waking sensations, so they abound most in our dreams. There is great variety in the mode of their reproduction. They may arise as mere copies of former visions; or, to speak more correctly, the individual conceptions may appear in the same groups as when they were first presented to us; or they may be assembled so differently, as to produce the effect of entire novelty. In the first instance, the dreamer may renew his youth,-breathing once more the air of his birth-place, and once more immersed in the joys or transient sorrows of those early days; or he may re-enact the toils of his manhood; and all the stirring exertions, or the weariness and solicitude, of his daily avocations may recur in dreams, so that the days are again lived over in the nights. In the other instance, the mind may be recreated by visions of fairy scenes and unearthly forms, such as his waking eye never beheld; or it may be haunted by combinations of forms more hideous than were ever conceived even by an artist of the hag-ridden middle ages. These new assemblages of former impressions would exemplify the process of thought which we call imagination in our waking hours, only that the mind is quite passive. It does not actively and artificially work up the old materials into new forms, under the command of the will or desire, but the forms are forced upon it whether wished for or not. Many minds would be quite unable, however much they might try, to call up before their mental eyes such seenes and forms as appeared to them in sleep. But the man of genius is distinguished by his capability of effecting such combinations for a particular purpose. It is true that they are often produced in such minds with so little effort, as to arise by a sort of inspiration, or as in dreams; but they differ still from the latter, in being entirely subservient to the designs of such creative power. It is an interesting fact, that the highest feats of the intellect, or, in other words, the most excellent combinations of ideas, have been such as have occurred without effort. The ingenious man, or the man of quick fancy, may put thoughts and things together, so as to produce most striking and agrecable effects; but we see that they are put together by a voluntary or even laborious effort, one the reverse of what ever occurs in dreaming. But in the works of genius we perceive no such marks of elaboration, unless in the finishing-off. There are no lines of junction or dove-tailing. The paradise of MILTON is not such as we could conceive by assembling the different elements of all the fine landscapes and gardens which we may have surveyed; but it gives us the idea of its having been seen at once by the poet's eye just as it is described, or as our own nightly visions appear to us. The imagination of the genius, and that of the dreamer, are thus closely allied in so far as they work by an "art unteachable, untaught;" but they differ widely in being attended and guided in the one case by the operations of the judgment, and in the other as being independent of such sway or assistance.

The remembrances which occur in dreams are often of a most interesting character, and not such as might have been expected. They bring back people of whom we have not thought for many years,—whom we have seen perhaps but once, and in the most incidental manner; and not only persons, but also places and things, and even transient thoughts; and, what is still more curious, the subjects of former dreams. I do not now dwell on these facts, because I shall have to

recur to them hereafter. I may only suggest, that it is a fearful liability of our nature to have the past summoned before us, when we may have fondly hoped that it was hid for ever in deepest night,—to anticipate what is to occur in another life:

"Each faintest trace that memory holds So darkly of departed years, In one hroad glance the soul heholds, And all that was at once appears."

This tendency is strongly manifested in dreams. Dreams which in the morning we may fail with all our endeavours to recall, will recur many days afterwards, when their proper associations have chanced to arise; and, on the other hand, events which we had entirely forgotten may be re-enacted in sleep with all the semblance of novelty; and their source will not be recognised after awaking till other associations and remembrances have arisen. This fact will be important to remember when we have to consider the apparent fulfilment of dreams.

Reasoning operations may be conducted in sleep. Mathematicians have in their slumbers solved problems which posed them when awake. The great metaphysician, Condition, was sometimes enabled in his sleep to bring to a satisfactory conclusion speculations which in the day were incomplete. Cabanis tells us that Franklin so often formed correct and highly important conceptions of persons and political events in his sleep, that he was inclined to view his dreams with superstitious reverence; while the real fact was, says Cabanis, that the philosopher's acute and sagacious intellect was operating even in his sleep.

Thus far, then, we see that the phenomena of dreams are

regulated by the same laws of association or succession as those of waking thought; and the more closely we investigate the difference between these two classes of phenomena, the more clearly we shall perceive that many of the distinguishing characters are rather apparent than real.

Before, however, proceeding to point out in what respects the operations of the mind in sleep appear to differ from those in our waking hours, I shall adduce an example of a very interesting analysis, showing how the materials of the most heterogeneous and incongruous dreams may be traced to former and even recent experiences.

"I dreamed once," said Professor Maass, of Halle,* "that the Pope visited me. He commanded me to open my desk, and he carefully examined all the papers it contained. While he was thus employed, a very sparkling diamond fell out of his triple crown into my desk, of which, however, neither of us took any notice. As soon as the Pope had withdrawn, I retired to bed, but was soon obliged to rise on account of a thick smoke, the cause of which I had yet to learn. Upon examination, I discovered that the diamond had set fire to the papers in my desk and burnt them to ashes."

"On the preceding evening," continues Professor Maass, "I was visited by a friend, with whom I had a lively conversation upon Joseph the 2nd's suppression of monasteries and convents. With this idea, though I did not become conscious of it in my dream, was associated the visit which the Pope publicly paid the Emperor Joseph at Vienna, in consequence of the measures taken against the clergy. And with this again was combined, however faintly, the representation of the visit which had been paid me by my friend.

^{*} Quoted in Mr. DENBY's Philosophy of Mystery.

These two events were, by the subreasoning faculty, compounded into one, according to the established rule;—that things which agree in their parts, also correspond as to the whole. Hence, the Pope's visit to the Emperor was changed into a visit which was paid to me. The subreasoning faculty then, in order to account for this extraordinary visit, fixed upon that which was the most important object in my room, viz., the desk, or, rather, the papers it contained. That a diamond fell out of the triple crown was a collateral association, which was owing merely to the representation of the desk. Some days before, when opening the desk, I had broken the glass of my watch which I held in my hand, and the fragments fell among the papers; hence no further attention was paid to the diamond, as it was a representation of a collateral series of things. But afterwards, the representation of the sparkling stone was again excited, and became the prevailing idea; hence it determined the succeeding associations. On account of its similarity, it excited the representation of fire, with which it was confounded; hence arose fire and smoke. But in the event the writings only wero burnt, not the desk itself; to which, being of comparatively less value, the attention was not at all directed."

The most obvious difference between the sleeping and waking state has reference to the comparative vividness of present and past sensations; for while in the latter state ideas of sensational impressions are so faint as to be readily distinguished from things actually present (except in certain morbid conditions), in the former the reverse of this happens; perceptions fade away and former sensations are revived with an intensity that gives them the character of reality. That the intensity or vividness is not altogether dependent on the

want of contrast with perceptions, I consider inferrible from the fact that actual outward sensations are often mingled with those which are revived. Slight sounds, feelings of heat and cold, frequently enter into the composition of our dreams, and by the laws of association suggest new scenes and characters in those nightly dramas. Exposure of the skin to cold may suggest all the scenery of Greenland, or the adventures of a Polar expedition. The faint light which penetrates the closed eyelid may give the idea of a conflagration, and so on. From this difference of degree, whether absolute or relative, in the vividness of ideas, it happens that the remembrances which occur in dreams are not felt to be remembrances. Whatever is then presented to the mind is not subjective but objective. Let it be a scene or transaction, it does not appear to us as a vision, but we take a part in it, and are involved mysteriously in its interests. Hence often the strangeness and incoherence of dreams. Our personal identity remains, and yet we are engaged in transactions that happened centuries ago. On this subject I may quote the experience of the English Opium Eater, related in his own peculiarly oloquent language. "I had been, in youth, and even since, for occasional amusement, a great reader of Livy, whom, I confess, that I prefer, both for style and matter, to any other of the Roman Historians; and I had often felt, as most solemn and appalling sounds, and most emphatically representative of the Roman people, the two words so often recurring in Livy, 'Consul Romanus,' especially when the Consul is introduced in his military character. I mean to say that the words king, sultan, or regent, or any other titles of those who embody in their own persons the collective majesty of a great people, had less power over my

reverential feelings. I had, also, though no great reader of history, made myself minutely and critically familiar with one period of English History, viz., the period of the Parliamentary War, having been attracted by the moral grandeur of some who figured in that day, and by the many interesting memoirs which survived those unquiet times. Both these parts of my lighter reading having furnished me often with matter of reflection, now furnished me with matter for my dreams. Often I used to see, after painting upon the blank darkness a sort of rehearsal whilst waking, a crowd of ladies, and perhaps a festival, and dances. And I heard it said, or I said to myself, 'These are English ladies from the unhappy times of Charles I. These are the wives and the daughters of those who met in peace, and sat at the same tables, and were allied by marriage or blood; and yet, after a certain day in August, 1642, never smiled upon each other again, nor met, but in the field of battle, and at Marston Moor, at Newbury, or at Naseby, cut asunder all ties of love by the eruel sabre, and washed away in blood the memory of ancient frieudship.' The ladies daneed, and looked as lovely as the court of George IV. Yet I knew even in my dream that they had been in the grave for nearly two centuries. This pageant would suddenly dissolve, and at a clapping of hands would be heard the heart-quaking sound of Consul Romanus; and immediately came sweeping by, in gorgeous paludaments, Paulus or Marius, girt round by a company of eenturions, with the erimson tunic hoisted on a spear, and followed by the alalagmos of the Roman legions."

Before leaving the consideration of revived sensations, I may notice a peculiarity as to light and sound. We seldom, at least in healthy dreams, have visions of great brilliaucy;

the light is not that of the noon-day, but the sober hue of evening, or even the dim grey shade of twilight. Hence, when we speak of shadowy, ill-defined perceptions of our waking life, we are apt to call them dream-like. The same obtains of sounds, which, unless produced by outward causes, and blended with the dream, are usually of the kind described by the poet,

"Like the faint, exquisite music of a dream."

The imperfection of the dreaming memory is remarkably illustrated when we are revisited by the forms of those who have long departed this life; for we believe them to be still living, simply because we have forgotten that they are dead. Another very important fact as to these revived impressions is, that we do not often subject them to the dominion of the will. A great difference is very observable in those processes of thought which belong to the imaginative faculty. The combinations are not, as under the active imagination of our waking hours, effected in order to fulfil some illustrative purpose, nor, as in the passive imagination, are we conscious that the scenes, however wild, and the persons, however monstrous, are mere creations of the mind. The emotions they excite are often of the most overpowering description.

"Dreams in their development have breath,
And tears, and tortures, and the touch of joy.
They leave a weight upon on waking thoughts,
They take a weight from off our waking toils,
They do divide our being.

* * * *
They have power,
The tyranny of pleasure and of pain."

But, on the other hand, it is a singular distinctive charac-

teristic of dreaming that the emotions which we might, a priori, have expected to arise are not produced. Of these the emotion of surprize or wonder is the most frequently wanting. The wildest incoherences, the confounding of personal identities, the mingling of material and mental properties, the most miraculous violations of the best ascertained laws of nature, excite no more amazement than the commonest events of life. I have dreamed of standing at the foot of a vast cataract, picking up shells and sand, the fall of water being suspended, as it were, in the air, while I was quietly employed at its base, and unconscious that there was anything extraordinary in all this. Dr. Macnish says, "on one occasion fancy so far travelled into the regions of absurdity, that I conceived myself riding upon my own back; one of the resemblances being mounted upon another, and both animated with the soul appertaining to myself, in such a manner that I knew not whether I was the carrier or the carried."

A gentleman to whom this Institution is largely indebted gave me the following experience:—"I have several times appeared to read a portion of an imaginary work as regularly as if it had been real. I have also dreamed that I was dead, and that I carried my own body in a coach to bury it, and that when I reached the place of burial a stranger said, 'I would not advise you, sir, to bury your body in this place, for they are about to build so near it, that I have no doubt the body will be disturbed by the builders.' 'That,' I replied, 'is very true! I thank you for the information, and I will remove it to another spot;' upon which I awoke."

It is probable that the absence of surprize, on the occasions alluded to, is due to the defective exercise of the comparing faculty. A want of discernment of the true relations of

things is one of the most remarkable characteristics of dreaming, and consequently the newness and strangeness of the connections of the things presented to our observation do not strike us. Defective exercise of the comparing faculty, however, is a roundabout phrase for expressing the fact, that the associated ideas are fewer in number. Dryden says,—

"Dreams are the interludes which fancy makes; When monarch reason sleeps, this mimic wakes, Compounds a medley of disjointed things,—A court of coblers, or a mob of kings."

Now, "a mob of kings" to a person awake would be odd and surprizing enough, because with such a sight there would arise in his mind all his former ideas of those august personages. But the dreamer has the regal multitude before him, and no other idea arises in his mind, by memory or association, to shew the absurdity of the impression. blending of the past and present, the intermingling of the events of the 17th and 19th centuries, the division of the indivisible personal consciousness, from the want of due associations, are not perceived to be incongruities, or impossibilities. and therefore we are not surprised. It is in this respect that dreaming bears so close a resemblance to insanity, so that it has been long ago remarked that delirium is dreaming awake, as dreaming is the delirium of sleep. A notable difference, however, consists in this, that the former is apt to be acted upon, while the execution of the sleeper's vagrant fancies is precluded by the thraldom in which his active powers are held; except in those morbid cases in which the nervomuscular system does not slumber with the rest of the body, and to which I alluded in my former lecture.

Some metaphysicians of high reputation have held, that

the want of command over the order of our ideas is the great distinguishing mark of dreaming,—an opinion to which we cannot entirely subscribe. The suspension of volition, though a frequent, and, perhaps, a general accompaniment, is not by any means indispensable to dreaming; for we certainly do exercise it in the recollections, and in the efforts at action in our dreams. Nevertheless, as we have already observed, the principal mental phenomena are of the passive character. It must be borne in mind, however, that in sleep we do not often wish to command our thoughts. When we are awake, our sensations are constantly interfering with the order of ideas, and, therefore, we are obliged to exert efforts of the will, as it is called, to keep such and such thoughts before us. Ideas are more readily associated with ideas, when sensations are excluded. Hence many persons instinctively close their eyes when engaged in deep thought. And the vagrant ideas of a person in a reverie, or fit of abstraction, or in a brownstudy, being little mingled with perceptions, are very like those of a dreamer.

The partial character of the thinking and feeling processes in sleep, is well illustrated by the defect of that form of judgment which constitutes taste. The most miserable doggerel may then pass before the mind as exquisite poetry. Orations may seem to be uttered worthy of the lips of Demosthenes, and arguments may be maintained which seem as irrefragable as the demonstrations of Euclid; and yet, were these reasonings and declamations uttered by a waking person, they would sound little better than the incoherent ravings of a maniac. Yet even to this general rule there have been remarkable exceptions. Cases are on record of judges who, in their sleep, have delivered decisions of the

weightiest kind; and of poets who, in that state, have composed verses of great power and beauty, though they were by no means exempt from a certain degree of mystical indistinctness. The most striking instance is Mr. Coledbrige's poem, entitled "Kubla Khan," which he himself characterised as a "psychological curiosity."

Another instance of the difference between dreaming and waking thought is that curious supension of the moral sense, which is sometimes experienced. To this slumber of the conscience the virtuous are not less prone than the wicked. It is by no means true, as it has often been asserted, that the natural character is necessarily repeated in the state of dreaming. Frequently it is so; the brave enact prodigies of valour; the cowards die many deaths in their sleep; the compassionate are dissolved in grief for the woes of imaginary sufferers, and so on. But occasionally the reverse of this happens, just as in the analogous state of insanity. The pacific become pugnacious; the gentle and open-hearted entertain strange suspicions and animosities; and the pure give utterance to sentiments which shock us like the snatches of old songs that fall from the innocent lips of Ophelia. So in sleep, deeds from which we should shrink with horror when awake, are performed not only without the least remorse, but even without any question in our minds as to their propriety.

The seemingly extraordinary lapse of time has been often remarked in sleep, and it is easily explained. We can think of the events which compose the dream, in the same time as we dreamed them; but in the dream, these events, though only thought of, seem to be real, and seeming real, they leave the same impression of time on the mind as if they had actually happened. The feeling of time arises from the

number of perceptions. The greater their number, and the more vivid and varied they are, the longer will seem to have been the time they occupied. It is just the reverse with thoughts. The more intense the latter, the less is the feeling of time. But in dreaming, what are really thoughts impress us with the belief that they are outward perceptions, and, as such, they excite a corresponding idea of time; so that

" a thought,—
A slumbering thought is capable of years,
And curdles a long life into one hour."

The sense of space is sometimes wonderfully affected. Mr. De Quincy says, "buildings and landscapes were exhibited in proportions so vast, as the bodily eyo is not fitted to receive. Space swelled and was amplified to an extent of unutterable infinity. This, however, did not disturb me so much as the vast expanse of time. I sometimes seemed to have lived 70 or 100 years in one night,—nay, sometimes had feelings representative of a millenium passed in that time, or a duration far beyond the limits of human experience."

On reviewing then the state of the mind in the sleeping man as compared with its condition in one awake, it does not appear that there is any one of the faculties, as some would say, or any one of the states of consciousness, as others would express it, which may not be exercised or exist in dreams. The sleeper may, though he does not ordinarily do so, see, hear, smell, taste and touch; he may, and commonly does, remember and imagine; he may reason, and reason rightly according to his premises; he may be agitated by the same passions, and be subject to the same refined sentiments of the moral, the sublime, and the beau-

tiful, as when he is awake. Wherein, then, consists the difference? Mainly in this,—that the mental processes are far less complete. Though specimens of any one of the classes of thoughts and feelings may be presented, the number and variety are very inferior to those of the waking state. Sensations occur so seldom as to be exceptional. The mind does not pass, so to speak, from perceptions to remembrances. and then back again to perceptions; and the associated ideas are so sparing as to produce those defects of judgment which we have just noticed. The stores given up by memory, though often surprising in their variety and far-fetched character, are still very scanty,-as, for instance, when we remember and seem to behold the friend who died in our childhood, and yet forget that he is no more; and the products of our imagination are not corrected by the judgment, because only a few associations arise in our minds. Though the moral sense is alert and even morbidly so at one time, at another it is quite paralysed. In short, I need not repeat, what I hope has been already sufficiently illustrated, that the great distinction between the two conditions is one of degree rather than of kind. There is, however, one difference apparently of kind, namely, that which I have noticed as the actual or seeming intensity of revived sensations, and which, when occuring in our waking hours, produces the phenomena of spectral illusions. But even this difference is resolvable into one of degree. To sum up then: the materials of dreams are the same as those which belong to our waking life, though they are fewer in number, and occur in different degrees of intensity; and the laws which regulate their order and composition are the same as those which operate in the other great division of our existence.

Having thus endeavoured to point out the leading features in which the phenomena of dreams resemble or differ from those of our waking thoughts and feelings, I proceed to inquire which of our past sensations are more likely to be renewed in the mental processes of sleep. And I may state in the onset, that much will depend in this respect on the character of sleep, as to its being healthy or unhealthy. In the former condition, I believe it will be found consistent with general observation, to say that the ideas (using this term as before to express the images of former perceptions) most apt to arise are those which have been prompted by the events and the thoughts of the previous or recent days. I say prompted by the latter, for I do not consider it a character of healthy sleep to have the occurrences of the day renewed in it. The more strictly we analyse our dreams, the more perhaps we shall be struck by their connections with recent experience; and yet the entirely different and remote matter which constitutes the body of the dream is not less remarkable. By the operation of the laws of association, persons and things long by-gone and forgotten are recalled in such vivid colours, and they occupy so prominent a place in the vision, that the circumstances which suggested their recurrence are apt to be totally overlooked. This fact, though not much noticed by those who have investigated our subject, seems to me particularly interesting, because it affords a striking indication of the harmonious arrangement of the human economy. The mind is refreshed and invigorated by the presentation of images which have not recently occupied its attention, whether they occur in the form of simple revived perceptions, or are wrought up by imagination into combinations that have all the effect of novelty. And

again, the faculties of passive memory and imagination which are thus employed, are precisely those which have been least exercised in the waking hours of the busy-minded man; while those which he most employs in the occupations of the day, namely, perception, active memory, and judgment, are enjoying complete repose. Whether listless day-dreamers are refreshed in the night season is a matter of little moment. I think it probable, that the machinery by which this beneficent contrivance is executed, is of the same nature as that which I endeavoured to point out on a former occasion, when treating of the efficient or physical cause of sleep. It is a general law, that the vital processes of nutrition and secretion are not equally active in all parts of the system at the same time, and that activity in one part is compensated by an opposite state in another part. When those portions of the brain which belong to the faculties of active observation and reflection have ceased to act, those in which memory and imagination reside, may be brought into play with but little demand on the strength of the system. This latter view is, however, hypothetical, and whether true or not, does not interfere with the importance or interesting nature of the fact which it seeks to explain.

Of the refreshment afforded by the arrangement which I have hinted at, we obtain perhaps a most decisive converse evidence from that kind of sleep which is not healthy; and which, like all morbid states, is a deviation from the natural condition. How little repose is experienced on awaking from a sleep in which we have done little else than go over afresh the cares, the wearisome duties, the perturbations and struggles of the previous day; a kind of sleep which is well known by those who go to bed over-tired, over-excited, too

weary to sleep, or, when sleeping, dreaming of labour.* One form of this over-fatigue is well known by literary men who retire to rest with their minds surcharged with the subject of some particular composition. Our illustrious townsman, Southey, gave an excellent admonition to a friend of mine who was writing a poem,-"Be sure when you dream of your subject, to lay your work aside for a few days." This advice was founded on his own experience. When that against which he warned my friend happened to himself, he made it a rule to engage in some other research. The secret of this is, the unnatural excitement of a part of the nervous system, so that its action continues when it ought to subside-Everybody must have felt the difficulty of getting rid of an impression on going to sleep, which, either from the vividness of its first presentation, or from the anxious emotions related with it, or simply from its long entertainment by the mind, continues in spite of our will. Such impressions bear a close analogy to those which are sometimes left on the mere organs of scuse. When the eye has become fixed on a luminous object, the image remains for a time on the retina, even after the eyelids are closed. Loud and long continued sounds continue to ccho in the ear, such as the roll of a carriage, &c. Analogous to these also is that feeling of oscillatory movement which is left in the body after tossing on the sea.

* "Atque in quâ ratione fuit contenta magis mens
In somnis eadem plerumque videmnr obire:
Causidici causas agere, et componere leges;
Induperatores pngnare, ac prælia obire;
Nautæ contractnm cum ventis cernere bellum;
Nos agere boc autem, et naturam quærere rerum
Semper, et inventum patriis exponere cbartis."
Lucret. Lib. IV.

Continuance then of the day's impressions and thoughts may be considered as one of the forms of unhealthy dreaming. Another kind is that which derives its materials from bodily disturbances. These usually suggest emotions of gloom, fear, vexation, as well as scenes associated with such feelings, and derived from memory and imagination. Pressure upon some of the nerves of the skin in an uneasy posture, exposure of a part of the surface to cold, and indigestion, with its myriad morbid impressions, will give rise to the most frightful fancies. One hand cold and benumbed applied to the other, has suggested the idea of a visitant from the grave laying its deathy grasp on the sleeper in token of the truth of a communication which was the product of his own brain. As to the impressions derived from disorder of the internal organs, it must not be supposed that the painful and disagreeable dreams have not had such an origin, merely because the individual is unconscious of any such derangement; for, as we have already remarked, the sympathetic sensation often supersedes the primary impression. In the waking state, our minds may in like manner be oppressed by gloom and despondency, or filled with apprehensions of coming calamities, and the whole world "sicklied o'er" with the cast of dismal thought, though nothing has occurred at all warranting such feelings, and we ourselves are unconscious of anything wrong in the bodily organs. Yet, that these were in fault is proved by the dissipation of the unhealthy fears and anxieties under the influence of measures which correct the corporeal functions.

Sometimes by the pressure of direct sensations from without, provided they are not too strong to arouse the sleeper, his dreams assume a happy character. Such may be the effect of faint and distant music, recalling delightful hours from the past, or suggesting imagery and actors from the world of poetry and romance.

It is a curious fact, that sometimes external impressions which have only been made during sleep, have also been revived in that state exclusively.* On the other hand, what has been heard in a half-dreaming state, may recur in a dream, and be afterwards remembered without the original source having been recognised. This may afford a clue to some mysterious verifications of dreams.

Of the material causes of dreams, none are more remarkable than the substances called narcotics, especially opium and belladonna. These drugs, while they annul the susceptibility of the sensory ganglia to outward impressions, have often a singularly exciting and perturbing influence on those portions of the brain which, at our last meeting, we pointed out as belonging to intellectual processes, and to the higher sentiments.

Nowhere are the effects of opium described with more power and eloquence than in the "Confessions of an English Opium Eater;" and I therefore shall not apologize for reading you more than one extract from that singularly interesting work.

"Oh! just, subtle, and mighty opium! that to the hearts of poor and rich alike, for the wounds that never heal, and for the 'pangs that tempt the spirit to rebel,' bringest an assuaging balm; eloquent opium! that with thy potent rhetoric stealest away the purposes of wrath; and to the

^{*} An interesting case of this kind is related by Dr. Abercrombie in his work on the Intellectual Powers.

guilty man, for one night, givest back the hopes of his youth, and hands washed pure from blood; and to the proud man a brief oblivion for 'wrongs unredressed, and insults unrevenged;' that summonest to the chancery of dreams, for the triumph of suffering innocence, false witnesses, and confoundest perjury, and dost reverse the sentences of unrighteous judges;—thou buildest upon the bosom of darkness, out of the fantastic imagery of the brain, cities and temples beyond the art of Phidias or Praxiteles,—beyond the splendour of Babylon and Hecatompylos; and 'from the anarchy of dreaming sleep' callest into sunny light the faces of long buried beauties, and the blessed household countenances, cleansed from the 'dishonour of the grave.' Thou only givest these gifts to man; and thou hast the keys of paradise, Oh! just, subtle, and mighty opium!"

The following extract illustrates the more distressing dreams produced by opium.

"The waters now changed their character; from translucent lakes, shining like mirrors, they now became seas and oceans. And now came a tremendous change, which, unfolding itself slowly, like a scroll, for many months, promised an abiding torment, and, in fact, it never left me until the winding up of my case. Hitherto the human face had mixed often in my dreams, but not despotically, nor with any special power of tormenting. But now that which I have called the tyranny of the human face began to unfold itself. Perhaps some part of my London life might be answerable for this. Be that as it may, now it was that upon the rocking waters of the ocean the human face began to appear; the sea appeared paved with innumerable faces, upturned to the heavens; faces imploring, wrathful, despairing, surged up-

wards by thousands, by myriads, by generations, by centuries; my agitation was infinite, my mind tossed and surged with the ocean."

I cannot resist the temptation of offering one more quotation, wonderfully interesting in what it describes, and still more so in the eloquence of the description.

"The dream commenced with a music, which now I often hear in dreams,—a music of preparation, and of awakening suspense,-a music like the opening of the coronation anthem, and which, like that, gave the feeling of a vast march, of infinite cavalcades filing off, and the tread of innumerable armies. The morning was come of a mighty day,-a day of crisis and of final hope for human nature, then suffering some mysterious eclipse, and labouring in some dread extremity. Somewhere, I knew not where,—somehow, I knew not how, -by some beings, I knew not whom, -a battle, a strife, an agony was conducting, was evolving, like a great drama or piece of music, with which my sympathy was the more insupportable, from my confusion as to its place, its cause, its nature, and its possible issue. I, as is usual in dreams (where of necessity we make ourselves central to every movement), had the power, and yet had not the power to decide it. I had the power, if I could raise myself to will it, and yet, again, had not the power; for the weight of twenty Atlantics was upon me, or the oppression of inexpiable guilt. 'Deeper than ever plummet sounded,' I lay inactive. Then, like a chorus, the passion deepened. Some greater interest was at stake, some mightier cause than ever yet the sword had pleaded, or trumpet had proclaimed. Then came sudden alarms, hurryings to and fro, trepidations of innumerable fugitives, I knew not whether from the good cause or the bad, darkness and lights, tempest and human faces, and, at last, with the sense that all was lost, female forms, and the features that were worth all the world to me, and but a moment allowed; and clasped hands, and heart-breaking partings, and then everlasting farewells! And with a sigh such as the caves of hell sighed when the incestuous mother uttered the abhorred name of Death, the sound was reverberated,—everlasting farewells!—I awoke in struggles, and cried aloud, 'I will sleep no more.'"

I must now devote some remarks to the question of the prophetic character of dreams. And first we must endeavour to state the question clearly. It is not whether dreams are ever fulfilled, whether the subsequent facts correspond to those prefigured in the dream, but whether the correspondence is such that we are obliged to infer that the future was revealed to the dreamer by the interposition of super-human power?

Before receiving evidence as to events that do not lie within the limits of ordinary experience, we naturally and instinctively consider their antecedent probability. It may be that, however extraordinary the occurrence, still it has no improbability. The mind may have been prepared for it, as in the case of the magnetic spark; wonderful as was the discovery, it harmonized with previous knowledge upon the subject. On the other hand it may not only be extraordinary, but it may be also opposed to all a priori views. In the former case a much smaller amount of evidence will be sufficient for inducing us to admit the fact. In the latter we require the most rigid proof that testimony is capable of affording.

As to the present question, it might appear to some that improbability cannot be predicated of such events, seeing that so many instances are vouched for in Holy Writ, and that if it has already pleased God to make communications to his creatures through dreams and visions, it is presumptuous to deny the probability of His doing so again. But upon a further consideration, we must, I think, perceive that these very cases do really render more improbable the repitition of such interferences in ordinary life, inasmuch as they belong to a dispensation altogether miraculous and supernatural.

Now, the very nature of dreaming, according to what has been already advanced this evening, and, indeed, according to every one's nightly experience, is such as to negative the probability of dreams being made the medium of such communications as are assumed. We have seen that they are full of the most glaring incongruities, and that there is the closest resemblance between the mental condition of the dreamer and that of the lunatic; and unless, as in uncivilized communities, we are disposed to invest the latter with a sacred character, we can hardly be willing to look upon the former as a gifted personage, because he is a dreamer. If we are not justified in looking, in our waking hours, for communications that may supersede the results of those faculties which the Creator has given us for our guidance, a fortiori, we cannot expect them, when, from the imperfect state of the mind, we should be unable to distinguish the suggestions of our errant unbridled fancy from divine inspirations.*

It is a favourite and good argument much in use with

^{*} A line of argument somewhat similar to this may be found in CICERO'S treatise "De Divinatione."

Englishmen, that whatever leads to bad practical results must be unsound in theory. Now, it would be easy to shew that very evil consequences would result and have resulted from faith in dreams. The lives of some may be wasted in vague expectations of happiness, foretold in dreams, while visionary clouds and darkness may perpetually overshadow the days of others, who else might have gone on their way rejoicing.

But these objections to the prophetic nature of dreams are only of a *a priori* formation. It may yet be a matter of fact that dreamers have been the subjects of supernatural illumination. But to admit the fact, as I have said, we require the strongest evidence.

Istly. We must remember that the testimony is single, and, so far, less to be trusted than were it confirmed by the experience of others. A dream, in its nature, is cognizable only by one mind. We depend, then, on the veracity of a single informant, except in those cases in which the dream has been related before the event which fulfilled its augury.

2ndly. If the dream comes to us second-hand, we must remember that the love of the marvellous, so inherent in man, renders the hearer as prone to believe, as the narrator to dress up a wonderful story. The relaters of the most real events are but too prone to modify and add to their stories, or to suppress circumstances, in order to make them fit some particular view. The account of a civil commotion witnessed by two persons of different political sentiments, will differ most remarkably. Each unconsciously moulds the facts so as to adapt them to some pre-existent view. This is signally the case with the relaters of dreams, whom it is impossible to gainsay, however much we may disbelieve them.

3rdly. We must reject all cases in which the verification

of the dream may be explained on other principles than that of a real prophetic power. Of these principles, the first that occurs to our notice is casual or fortuitous fulfilment. The sensc I here attach to fortuitous is this. The event in the dream, and its subsequent corresponding event, happen near together, but are dependent on different trains of causes. To take a familiar instance of another kind. A person from Cumberland, and another from Cornwall, formerly fellowstudents, having lost sight of each other for many years, meet some fine May morning quite unexpectedly in Pall Mall or Cheapside, and, on comparing notes, they find that they had arrived in town on the same day, and had left home on the same day. They part and never meet again; and nothing comes of the interview but a story to tell over aud over again, as they advance in life, of the singular coincidenco that happened among other wonderful occurrences in their visit to London. Now, if the interview had produced auy important influence on the life of either party, it would have been difficult to resist the temptation of viewing it as an event specially brought about by a higher power for the particular result in question. And yet many other events just as important in their results, though not occurring in the same unusual manner, have as good a title to be viewed as instances of direct interposition. To the religious mind which believes that all things are of God, that "in Him" we "constantly live and move, and have our being," that "not a sparrow falls to the ground without his permission," every event must be held as subject to his ordinance; and it will not be hastily presumed, that those are specially so which affect one person in particular. For who can affect to say what events are momentous or otherwise? That meeting of two friends in London, though it seemed not "to point a moral," however much it might "adorn a tale," may have been very important to others. The narrative reaching the ears of a solitary recluse, whose heart had been long, long yearning for the friend of his youth, may have prompted him to undertake a journey to London in the hope of some similar happy coincidence; and he may have lost his life on his journey, or, having got safe to the end of it, may have failed in his hope, and yet been led to form an acquaintance or even tenderer connections, that altered the complexion of the remainder of his existence, or even wonderfully affected remote posterity; so infinite, and infinitely connected, are the links in nature's chain of existences. The principle of mere coincidence, then, will explain many fulfilments of dreams as they are called; and it must not be presumed that it is not mere coincidence, because the dreams are of an unusually interesting character. When one thinks of the vast number of dreams which happen to every one in proportion to the number that come true, I only wonder the fulfilments are so rare. I have dreamed as much as most people in my time, but I never yet experienced any of these remarkable verifications. I have conversed with numbers of dreamers, and though they abounded in interesting recitals of what had happened to their friends in this way, I have seldom, very seldom, found one who had been himself gifted with prophetic visions; just as for a thousand ghost-story-tellers, we meet with scarcely one veritable ghost-seer; and he turns out to be the subject of a peculiar nervous disorder, that destroys the balance between the perceptive and conceptive faculties.

As an instance of what strange things may happen in the

way of coincidence, I shall relate an anecdote of two persous who dreamed the same dream.

"A young man, who was at an academy a hundred miles from home, dreamt that he went to his father's house in the night, tried the front door, but found it locked, got in by a back door, aud, finding nobody out of bed, went directly to the bed-room of his parents. He then said to his mother, whom he found awake, 'Mother, I am going a long journey, and am come to bid you good-bye;' on this she answered, under much agitation, 'Oh! dear son, thou art dead.' He instantly awoke and thought no more of his dream, until a few days after he received a letter from his father, enquiring very anxiously after his health, in consequence of a frightful dream his mother had on the same night in which the dream now mentioned occurred to him. She dreamt that she heard some one attempt to open the front door, then go to the back door, and, at last, come into her bed-room. She then saw it was her son, who came to the side of her bed, and said, 'Mother, I am going a long journey, and am come to bid you good-bye; on which she exclaimed, 'Oh! dear son, thou art dead!' But nothing unusual happened to any of the parties. This singular dream must have originated in some strong mental impression which had been made on both the individuals about the same time; and to have traced the source of it would have been a subject of great interest."*

In other dreams the communications made, though at first astounding, and all but supernatural, are easily referable to a principle which I noticed in the earlier part of this lecture, I mean the revival of impressions which had remained dormant and unremembered for an indefinite period, till some

^{*} Dr. Abercrombie.

particular incident occurred capable of giving the magic touch of re-vivification, like the marvellous words, "Open, Sesame!" the only ones that would unlock the treasury of past perceptions. If a person may grow up to adult age, and never remember a scene which happened in earliest childhood, till the suggestive association has been afforded by the smell of a certain flower of rare occurrence, it is quite conceivable that in the mental processes of sleep some phenomenon may occur that has this effect on what had previously been forgotten, and which may seem to be a new representation. One of the most striking instances of a person's remembering in a dream what he had forgotten in his waking state, may be found in the case of Mr. R., narrated by Sir Walter Scott, in his Notes to "The Antiquary."

Some dreams work their own fulfilment. The mind vehemently possessed by an idea thus received, almost instinctively acts up to it. An unhappy person having dreamed that he should commit murder, was continually haunted by the impression, so that at last he fell upon the crime as if devoted to it by an irresistible destiny. The influence of an idea of the same kind, but obtained from another source, is but too often exemplified. The details of atrocities in our public prints so fasten on the minds of persons of a certain temperament, as to lead, on the principle of passive imitation, to the perpetration of like horrible deeds. Suicide has often been so induced. A belief in the premonitions of dreams would greatly add to the effect. The subject of it might fancy himself. Orestes-like, doomed to be, in the hands of Fate, the instrument of punishment to the appointed victim, and yet be himself the more pitiable of the two. But the dream may sometimes act by supplying an additional motive to

those already in operation, strengthening the sense of duty, or some passionate enthusiasm. Thought of at first as a bare possibility, amusing the mind that contemplates it, it becomes familiar. Circumstances happen that bring it nearer to a probability, and at last the dreamer's own will converts it into a certainty. OLIVER CROMWELL is said to have had a remarkable dream when a boy. "He had laid himself down one day," it is said, "too fatigued with his youthful sports to hope for sleep, when suddenly the curtains of his bed were slowly withdrawn by a gigantic figure, which bore the aspect of a woman, and which, gazing at him silently for awhile, told him that he should, before his death, be the greatest man in England. He remembered, when he told the story, that the figure had not made mention of the word King."* Forty years of the life of this wonderful man passed without any occurrence that we can imagine likely to have reminded him of this incident as anything but a dream. By and by, in his fierce struggles with the regal power, the phantom might have passed before his mind, and still, perhaps, only raised a smile on the patriot's stern countenance. At Naseby the phantom might have worn a more solemn aspect,—and at Worcester it might have grown into a spirit, and the voice into an oracle. Perhaps, on the floor of the House of Commons, when, by the breath of his mouth, he drove the Long Parliament from the very scene of his anti-monarchical exertions, his soul at last became fully obedient to the spell of the idea, which had now reached its full development. His strong will, then become dominant over every other, may have become the servant of his thought. He had realized

^{*} Forster's Cromwell, in the Lives of British Statesmen.

his dream. Cromwell, though not a king, had made himself, in very deed, the greatest man in England.

In other cases the dream is fulfilled on a different principle. We have seen that the operations of the mind may, in sleep, closely resemble those of our waking hours, especially when the sleeper retires with his mind full of a particular subject. The thoughts of the day are not only repeated in this morbid sleep, but even extended, so that new and important results may be obtained. But the suggestions of the mind so formed may, because they have occurred in a dream, be erroneously taken for supernatural communications. The following case, related by Dr. Abergrombie, well illustrates what I have said. "A most respectable clergyman, in a country parish of Scotland, made a collection at his church for an object of public benevolence, in which he felt deeply interested. The amount of the collection, which was received in ladles carried through the church, fell greatly short of his expectation; and during the evening of the day he frequently alluded to this with expressions of much disappointment. In the following night he dreamt that three one-pound notes had been left in one of the ladles, having been so compressed by the money which had been thrown in above them, that they had stuck in the corner when the ladle was emptied. He was so impressed by the vision, that at an early hour in the morning he went to the church, found the ladle which he had seen in his dream, and drew from one of the corners of it three one-pound notes."

But it is very needful to be cautious as to such presumptions from apparent final causes. For proof of which we may turn to the autobiography of Capt. John Crichton, a gentleman who served in Scotland during the unhappy

reigns of Charles II. and James II. This worthy relates how, on two separate occasions, his dreams indicated the clue to the hiding-place of some of the unhappy Covenanters, who in those days were undergoing a brutal persecution, days when the principles of toleration and christian charity were but little acted upon by either of the conflicting parties in the ascendancy. By the information received in his dreams, Capt. Crichton was enabled, on both occasions, to pounce upon his victims. "Having drank hard one night," he says, "I dreamed that I had found Capt. David Steele, a notorious rebel, in one of the five farmers' houses, in the shire of Clydesdale, and parish of Lismahego, within eight miles of Hamilton, a place that I was well acquainted with;" and then he tells how by means of this information he caused the man's death!

In this and similar cases the mind of the dreamer is placed passively in the very situation which we endeavour, but often in vain, to assume in our attempts at active recollection. All those associated circumstances are called up which may escape our ordinary memory. It is highly probable that the Captain's observant eye had transiently noticed the spots alluded to as probable lurking-places of the fugitive Covenanters. In the subsequent hurry of action they were forgotten, but they were afterwards re-produced in his dream.

But my hearers may, perhaps, be weary of my attempt to disenchant dreams of their mysterious interest. They may be inclined to ask how I deal with those cases in which an event was vividly and minutely pre-figured to a person hundreds of miles from the spot where it was really occurring, or at a considerable period before it came to pass; such, for instance, as the following, narrated in on old work, "The Itinerary of Mr. Fiennes Morrison."

"Whilst I lived at Prague, and one night had sit up very late drinking at a feast, early in the morning, the sunbeams glancing on my face as I lay in my bed, I dreamed that a shadow passing by told me that my father was dead, at which, awaking all in a sweat, and affected with this dream, I rose, and wrote the day and hour, and all circumstances thereof, in a paper-book, which book, with many other things. I put into a barrel, and sent it from Prague to Strode, thence to be conveyed into England. And now being at Nuremberg, a merchant of a noble family well acquainted with me and my friends arrived there, who told me my father died some two months ago. I list not to write any lies; but that which I write is as true as strange. When I returned into England some four years after, I would not open the barrel I sent from Prague, nor look into the paper-book in which I had written this dream, till I had called my sisters and some friends to be witnesses, when myself and they were astonished to see my written dream answer the very day of my father's death.

"I may lawfully swear that which my kinsman hath heard witnessed by my brother Henry whilst he lived, that in my youth at Cambridge I had the like dream of my mother's death, when, my brother Henry living with me, early in the morning I dreamed that my mother passed by with a sad countenance, and told me that she could not come to my commencement, I being within five months to proceed Master of Arts, and she having promised at that time to come to Cambridge; and when I related this dream to my brother, both of us awaking together in a sweat, he protested to me that he had dreamed the very same; and when we had not the least knowledge of our mother's sicknesss,

neither, in our youthful affections, were any whit affected with the strangeness of this dream; yet the next carrier brought us word of our mother's death."

Supposing these narratives to be true, and regarding them for the moment as iustances of a kiud of revelatiou, we look for a final cause, but we discern none, unless it be the possibility of some influence on the spiritual condition of the individuals.

A similar difficulty presents itself, when we read of the waruings made through ghosts and dreams of the death of the celebrated or notorious Duke of Buckingham. In fact, as Captain Grose says, "in cases of murder, a ghost, instead of going to the next justice of the peace and laying its information, or to the nearest relation of the person murdered, appears to some poor labourer who knows none of the parties, draws the curtain of some decrepit nurse or almswoman, or hovers about the place where the body is deposited."

Before any such cases are received as true occurrences, it behoves us to apply most rigorously all the tests of evidence; and I hope I shall not be deemed unduly suspicious, if I say that in very few instances can we be satisfied that the relater of the dream, even when wishing to be strictly accurate, has not been deceived by his own mind. When one striking object has been presented to the mind in sleep, it is so easy to imagine others that might have harmonized with it, that the latter may afterwards seem to be remembered as part and parcel of the dream, and may enter into the narrative. Even the subsequent event, the anti-type of the dream, may have attendant circumstances which were not prefigured, but which are unconsciously appropriated by the mind of the dreamer in accordance with that singular propensity, now

and then experienced, to imagine that what has really happened to us for the first time, is only the repetition of what has occurred at some previous period. Bertram says in Guy Mannering, "How often do we find ourselves in society which we have never before met, and yet feel impressed with a mysterious and ill-defined consciousness, that neither the scene, the speakers, nor the subject are entirely new,—nay, feel as if we could anticipate that part of the conversation which has not yet taken place." You remember, too, Coleridge's expression of the same idea in one of his sonnets:—

"Oft o'er my brain does that strange fancy roll,
Which makes the present, while the flash does last,
Seem a mere semblance of some unknown past,
Mixed with such feelings as perplex the soul
Self-questioned in her sleep; and some have said
We lived, ere yet this robe of flesh we wore."*

I trust it will not be thought that I have depreciated dreams, by endeavouring to divest them of some of the false interest which has been attached to them. It is right that we should endeavour to view all phenomena in their true aspects; not through the tinted media of human prejudices and misconceptions. We have warrant in Holy Writ for extreme caution, to say the least, in lending a too ready ear to the divinations of dreams; and let us hear what has been said by that orthodox divine, Jeremy Taylor, a name no less cherished by the lovers of English literature than dear to the venerators of the English Church. He is speaking of superstitious fear. "To this may be reduced the observation of dreams, and fears commenced from the fancies of the night; for the superstitious man does not rest even when he

^{*} Ην που ημων η ψυχη πριν εν τωδε τω ανθρωπινω ειδει γενεσθαι. Plat. in Phædon.

sleeps, neither is he safe because dreams usually are false, but he is afflicted for fear they should tell true. Living and waking men have one world in common; they use the same air and fire, and discourse by the same principles of logic and reason. But men that are asleep, have every one a world to himself, and strange perceptions, and the superstitious hath none at all. His reason sleeps, and his fears are waking, and all his rest, and his very securities, to the fearful man turn into affrights, and insecure expectation of evils that never shall happen. Dreams follow the temper of the body, and commonly proceed from trouble or disease, business or care; an active head and a restless mind: from fear or hope, from winc or passion, from fulness or emptiness, from fantastic remembrances, or from some demon, good or bad; they are without rule and without reason. They are as contingent as if a man should study to make a prophecy; and by saying ten thousand things, may hit upon one true, which was therefore not foreknown, although it was forespoken, and they have no certainty because they have no natural causality,no proportion to those effects which many times they are said to foresignify."*

Apart from this view, there is nothing in dreams which needs to be spoken of disparagingly; on the contrary, they are a singularly interesting class of mental phenomena, capable of affording materials for study, at once profitable and engaging. Some of the questions they suggest I have endeavoured to point out, though in a manner to my own apprehension very imperfect and unsatisfactory. But I may have said enough to show, that while they have considerable light thrown upon them by the true knowledge of the processes of waking thought, they also in their turn may con-

^{*} Sermon ix.

tribute not a little to the science of mind. That accomplished metaphysician, DUGALD STEWART, has recorded that an essay which he wrote in his youth, upon dreams, led him to those more extended researches which ended in the formation of a complete system of mental philosophy.

They are not to be spoken of lightly, if we only consider how large a component part they form of man's mental life. Think of all the children of men, from the birth of the human race; compute the amount of existence spent in dreaming life; allow only a fourth instead of a third for sleep, and out of this give only half to conscious dreaming; and even then how it dizzies the mind to comprise the largeness of the fact! Try to think only of the regions of the earth where life has been most populous. To pass over the old lands of Greece and the Roman Empire, and our modern Europe; think of the clouds of mummy dust mingled with the sands of Egypt; and remember that it belonged to beings who were dreamers, as well as builders and worshippers. Think of the people of Hindostan, and Tartary, and the Chinese Empire, and, whether you adopt their interminable chronologies, or that which is current with ourselves, it is bewildering to imagine all those generations which have sprung up like rank herbage, and decayed as rapidly. But they had all of them working hands, and busy brains, and vearning hearts, in their waking hours; and, doubtless, they too renewed the day's labour in their sleep, or shaped a fantastic visionary life.* The mere extent of the fact then

^{* &}quot;Rex que in vitâ usurpant homines, cogitant, curant, vident, Quæqne agunt vigilantes, agitantque, ea si cui in somno accidunt Minus mirum est."

alone entitles it to consideration. But facts increase infinitely in interest (it is almost a truism to remark it), according to their juxta-position. And though ourselves set free from superstition, let us, when viewing dreams in reference to the human species, consider how they have heen associated in men's minds with oracles, and revelations, and warnings; that they have seemed to hridge over the mysterious chasm which divides us from the invisible world and its shadowy inhabitants. Let us put aside, as too sacred for discussion here, those examples narrated in the Sacred Scriptures, seeing that they helong altogether to a miraculous dispensation which takes them out of the pale of common historical phenomena; and let us contemplate them in relation only to what are commonly spoken of as the false religions of the world; those forms of faith into which men's minds have fallen by mere natural tendency, especially when actuated by those outward influences which helong to the solemn grove, the murmuring ocean, the vapour-clad mountain, the silent night, the sun, and moon, and stars. With the half-reasoning systems of prophet-sages, and the mythological creations of poets, giving something of order and coherence, and an ahundance of heauty and interest, to those struggling, semiorganized heliefs which had been generated of uninformed religious instincts, or evoked by the whispers of primeval tradition, it is not wonderful that the half-real, half-unearthly phenomena of dreams should seem to accord wonderfully, and to tinge them with a colour of authenticity. The awful forms that had been presented to the waking imagination in fables, which in those simple times, and to those simple hearers had nothing fahulous, could not hut often recur in the visions of the night, invested with attributes, and associated with circumstances, bearing on the dreamer's personality, and infallibly deepening the superstition.

What, for instance, must have been the dreams of men who had walked by moonlight, under the shadows of the tombs of departed kings, for the remembrance of whose greatness no works could suffice, but such as might last with the world itself; or paced the solemn avenues filled with endless repetitions of that strange form, which, perhaps, symbolized one of the great secrets of the universe; or had heard the Memnon hail the morning sun with miraculous melody; or on the plains of Thebes had looked up to those colossal Amunophs, which sit even now as if they could never be moved,—sedent æternumque sedebunt,—or had worshipped and partaken of unutterable rites among those pillars of Dendera, where

"marble demons watch
The Zodiac's brazen mystery, and dead men
Hang their mute thoughts on the dead walls around;"

or had followed the loved and lost to the gloomy lake of the dead, and had heard the earthly rehearsal of the future trial by the forty assessors of human actions, which was to be actually undergone in other worlds, in the dread presence of Osiris! What the dreams of those who had trembled in the caverns of Elephanta or Ellora, in sight of those awful deities, into whose forms the rocks themselves seem to have grown, rather than the forms to have been carved by human hands, and there heard of Seeva the destroyer, and of the avenging Avatar of Brama! Less startling, and often lovely were the visions of those who could dream in Arcadia of scenes

"where universal Pan, Knit with the Graces and the Hours, in dance Led on the eternal spring;" or on the banks of Ilissus, or in the shadows of Pelion, could follow the shapes of

"Sileni, and sylvans, and fauns,
And the nymphs of the woods and waves;"

though sometimes there might be gloomier intimations of a retributive Nemesis, and unconquerable Destiny, and even Pallas herself might "frown severe."*

It would be wearisome to my hearers to carry a like train of thought to the Scandinavian Pantheon,—to the halls of Odin, the regions of the Thunder-God,—to the Gods and Heroes of our ancestors; or across the Atlantic to those primeval cities and monuments, overgrown by monstrous forest, in Yucatan. Yet wherever we trace the footsteps of the religions of by-gone ages, we feel assured that the same tracks were haunted by the dreams of the men of old.

But it is enough to bear in mind what we experience in our own nightly visions. Dreams are much to be honoured and valued, seeing that in the wonderful shapes of thought which they sometimes present to us, we are gifted with conceptions of the ideal,—divine possibilities,—a consummation of grandeur and beauty, beyond anything which actual life can furnish;—glimpses of

And thus, like the revelations of philosophy, the embodiments of art, and the inspirations of poetry, dreams, too, may tend to refine and sublimate our thoughts, weaning us

^{* &}quot;And Pallas frowned severe."—LANDOR'S Hellenics. "Shades of Iphigenia and Agamemnon."

from low desires, and raising our aspirations towards a state of existence, of which all that here is best, and fairest, and greatest, is but a faint shadow, and may be remembered in that purer world, like one of the most incomplete of our earthly visions; as a dream, in which whatever was beautiful was in fragments, in which the mean and the sublime were incongruously intermingled, and in which moral perfection was ever eluding the grasp; in which love was not free from some alloy of selfishness, nor hope unmixed with fear.

The End.

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